EDUCATION.

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PRESIDENT GARFIELD AND EDUCATION.

BY PRESIDENT B. A. HINSDALE, HIRAM COLLEGE, OHIO.

PRESIDENT GARFIELD'S school preparation for teaching, and for all the duties of life, was made in four places: the Orange district school, which he left in his seventeenth year; Geauga Seminary, Chester, Ohio, where he studied four terms, in 1849, 1850, and 1851; the Western Reserve Eclectic Institute, Hiram, where he studied eight terms before going to college in 1854; and Williams College, where he graduated in 1856. A rapid summary of his characteristics as a student will form a fitting introduction to this paper.

I.

GARFIELD, THE STUDENT.

President H. W. Everest, of Butler University, Indiana, who was a student with Garfield at Chester and Hiram, and a teacher with him in the latter place, has lately given in a private letter this account of his own observations of Garfield as a student. No better analysis can be made, and so I use it in this place:—

"I met him first at Chester. Rooming in the same building, and working for a while at the same carpenter's bench, we soon became intimate. He was a noticeable student, both on the play-ground and in the class-room. We recited Robinson's Algebra together, and belonged to a literary society of our own getting-up, called the 'Mystic Ten.' At Hiram I was not classed with him, yet knew much of him as a student, but more of him as a teacher. My estimate is briefly as follows; and for many of the items I remember distinct illustrations:—

"1. His intellections were clear, vigorous, and easy in all directions, but especially so in the languages.

"2. He did not study merely to *recite* well, but to *know*, and for the pleasure of learning and knowing.

"3. It was his main object to master the thought, but the language was retained with the thought.

"4. As study was the easy play of his mind, so to recount and to review his lessons and reading was a frequent pleasure.

"5. He was a master at condensed classifications, so that his memory easily held and reproduced what he had learned.

"6. He had a wide-awake curiosity, which seemed never to be satiated. A new thing, however unimportant, always attracted his attention.

"7. He had a great desire and settled purpose to conquer, to master the lesson, to prove superior to every difficulty, to excel all competitors, to conquer and surpass himself.

"8. With this desire to conquer, there was found the most generous and exultant admiration at the success of another.

"9. Over all his study he shed the glory of a happy disposition; of youth, hope, and manly courage."

All of these points are well taken, but several of them deserve especial emphasis. He studied to *know*, and for the pleasure of learning and knowing. With this may be connected President Everest's seventh point, Garfield's settled purpose to conquer, to prove superior to every difficulty. His love of victory, over men or things, was the strongest; but it was a love born of the noblest elements. He took no pleasure in a merely personal triumph; but a triumph that was a test of honorable superiority he keenly enjoyed. Here, too, may be mentioned his full appreciation and generous recognition of all men, even though competitors or opponents. His determination to master whatever he undertook, especially to subdue his own nature, is well illustrated by an anecdote. Sitting on a log in the edge of the woods, back of the college building in Hiram, he once said to the companion of his walk, —

"I have made a painful discovery. I have found that my mind needs interest in a subject to incite it to continuous action. The other day, I tried to read through a long bill in which I had no interest; it was merely my duty to read it. My attention wandered, thus revealing a defect in my training. If I cannot otherwise overcome this defect," he said, "I will give up my work, renounce public life, go to Germany, and take a full course in one of the universities. I must be full master of my powers at any cost."

At this time he had been in Congress several years.

His mastery of condensed classification not only aided retention and reproduction, and thus greatly facilitated the process of thorough acquisition, but was of incalculable value to him as a teacher and a public speaker. All members of his classes who appreciated him, and even those students who simply heard his lectures, cannot fail to remember the advantage that they received from his blackboard classifications. They were a capital feature of all his teaching. Besides, in his oratory, classification is an element equally important with strength of statement and aptness of illustration.

His curiosity could never be satisfied. No matter what he touched, he ***must*** understand it. The glow of his happy social dispo-

sition, his joyous nature, his faith, hope, and courage, and even his tendency to optimism, were an indispensable condition of his success as a student, as a teacher, and as a public man.

Finally, President Everest says Garfield did not study merely to recite well, but to *know*, and for the pleasure of learning and knowing. But Garfield did study to recite well, all the same. He was never indifferent to a recitation, or to any other appearance of his before a class or an audience. Consciousness that he had made a good recitation never failed to give him much satisfaction. Still, he perfectly appreciated that knowledge and training are the ends of study; nay, he recognized no antagonism between good reciting, in the proper sense, and thorough knowledge. The one is an end in itself, and is the necessary condition of the other. He once said, "If at any time I began to flag in my effort to master a subject, as working out a problem, I was stimulated to further effort by the thought, 'Some other fellow in the class will probably master it.'" In summing up the forces that acted in President Garfield's life, what he thought "the other fellow" was likely to do must never be overlooked. He was always generous in his emulations; but his eye never wandered from the "other fellow." At the same time, full recognition of noble achievement for its own sake, and faithfulness to the heavenly vision as revealed in his own heart, ran parallel with the spirit of emulation.

II.

GARFIELD, THE TEACHER.

President Garfield's teacher-life may be divided into three periods: the district-school period; the Hiram period before going to college; the Hiram period after his graduation. He taught district school three terms, in the years 1849, 1850, and 1851. He taught in Hiram, the first period, six terms; the second period, fifteen terms. Accordingly, he taught twenty-four terms in all, or the major part of the time from November, 1849, to his entering the army in August, 1861. Two characteristic anecdotes will tell all that can be here told about his district-school teaching; they will also tell much more besides, since they are invaluable illustrations of his life and character. The first he related to two or three friends but a short time before he left Mentor for Washington, to be inaugurated President of the United States. The subject under discussion at the time was "office-seeking" in general, and the "second term" in particular.

"The fall that I was eighteen years old, I travelled a considerable circuit round about Orange, in quest of a district school to teach. I was refused in one place after another, for different reasons, so that at last I came home, tired and discouraged. I had made up my mind that seeking positions was not in harmony with my nature; that I never should succeed in life if I hunted places, and that I would make no further effort in that direction, but would wait and see what would come to me. An hour or two after reaching home, with these conclusions fully wrought out in my mind, a man from an adjoining neighborhood called at my mother's house, and said he was 'huntin' Widow Gaffield's * Jimmie.' He wanted a teacher for his district, and he 'lowed that Jimmie would do.' I was called in," said the President-elect, "and a bargain was soon concluded. The coming of the man confirmed me in the opinion that place-seeking was not in my line; and I have never asked anybody for a place from that day to this."

The reader can reflect upon this story at his leisure. Here it suffices to say that in consequence of this contract, the future President of the United States taught his first school. Years after Gen. Garfield had ceased to teach, and when he had already acquired a national reputation as a statesman, he one day gave a lecture to the teachers' class in Hiram College. It was in this lecture that he related the second anecdote:—

"When I first taught a district school, I formed and carried out this plan: After I had gone to bed at night, I threw back the bedclothes from one side of the bed. Then I smoothed out the sheet with my hand. Next, I mentally constructed on this smooth surface my school-room. First I drew the aisles; here I put the stove, there the teacher's desk, in this place the water-pail and cup, in that the open space at the head of the room. Then I put in the seats, and placed the scholars upon them in their proper order. I said, 'Here is John, with Samuel by his side; there Jane and Eliza'; and so on, until they were all placed. Then I took them up in order, beginning next my desk in this manner: 'This is Johnnie Smith. What kind of boy is he? What is his mind, and what his temper? How is he doing? What is he now as compared with a week ago? Can I do anything more for him?' And so I went on from seat to seat, and from pupil to pupil, until I had made the circuit of the room. I found this study and review of my pupils of great benefit to them and to me. Besides, my ideal construction, made on the bed-sheet in the dark, aided me materially in the work."

The reader can also reflect upon this narration at his leisure. Here it suffices to say that a young man who had the ingenuity, patience, and thoughtfulness to carry on such work as this, not to speak of higher capacities, night after night, could not but succeed as a district-school teacher.

Before he went to college, Mr. Garfield taught classes in English studies and in the classics. On his return in 1856, he was made teacher of the ancient languages. After one year he became head of the Institute, and continued such, in active duty, until he went into the army.

His salient characteristics, both as a teacher and as a school

* A local corruption of Garfield.

administrator, will now be traced out. First I shall present President Everest's analysis of the teacher: —

"1. He was always clear and certain.

"2. He impressed the main things, but passed perhaps too lightly over the subordinate portions.

"3. He had rare ability at illustration.

"4. He gave more attention to the boy than to the book. He strove to develop the student, not the lesson or science.

"5. He was abundant in praise of success, but sparing of blame.

"6. He inspired his students with a spirit of investigation and conquest.

"7. By frequent and rapid reviews, he kept the whole work in hand and gave it completeness."

The field of instruction at Hiram was regularly allotted to the different teachers; but the published scheme was never fully carried out in practice. The majority of the students were pursuing selected studies; calls for classes were more or less irregular: hence the teachers were compelled to accommodate themselves to the wants of the students. Then their desire to shun ruts and narrowness, to gain breadth, and to preserve freshness, as well as the desire to carry their individual methods and personal force through the whole school, tended in the same direction. Still, each teacher generally worked within certain lines, though the lines were not very straight or rigid. Accordingly, it must not be thought that Mr. Garfield taught all the Latin and Greek, or that he taught nothing else. He taught classes in classics and mathematics, history, philosophy, criticism, English literature, rhetoric, English analysis, and geology. Certainly his knowledge of these subjects was not that of the specialist, but it was sufficient for present demands. Nor must it be thought that the demands were small. Many young men and women were then fitting for college in Hiram; some for the Freshman class, but more for the higher classes. Then there were many young men and women of age, ability, and character, who had no thought of going to college, but wanted the "best studies"; and these sometimes tasked the powers of the teachers quite as fully as any others. Principal Garfield took more interest in some studies than in others; but upon the whole, it was hard to see that he did not teach all the studies named equally well. At some time all the studies taught in colleges, and more besides, engaged his particular attention and aroused his special enthusiasm. He always taught the class in English analysis. This study was a special favorite with him, and nowhere else did he more shine as a teacher. Through this class most of the better scholars at some time passed, even if they considered themselves thorough in it before. Probably no other of his classes

is to-day remembered with equal interest by so many persons. Then his geology class, that recited at five o'clock in the morning, cannot be forgotten by a single surviving member. His method of teaching combined the technical question, the general question, the topic, and the teacher's own discussion of the question in hand. A critic might have said that the last element was too prominent, that he did too much himself, that he did not so much excel as a drill master and a disciplinarian; but if fruit is the test of method, it would be hard to sustain the criticism. He strove to awaken the student's faculties. He sought to energize or vitalize him. He revealed the world to the student, and the student to himself. He stimulated thought, created the habit of observation and reflection, aroused courage, widened the field of mental vision, and furnished inspiration in unlimited measures. If his regimen was somewhat deficient in the forces that *push* the student, it was strong in the forces that *draw* him. His associate teachers had more than ordinary ability, and were thoroughly respected by the school; but those scholars who had reached his zone always made an effort, if necessary, to be in at least one of his classes.

Principal Garfield's chapel lectures were a great source of instruction and influence. Of these he gave many huudreds, ranging over education, teaching, studies, books, methods of study and reading, physical geography, geology, history, the Bible, morals, current topics, and life questions. These lectures were full of fresh facts, new thoughts, striking illustrations, and were warm with the glow of his own life. His two years in Williams College had given his mind some new facets. He brought back the best thoughts of Dr. Hopkins, and sowed them in Hiram soil. His mind was growing every day, and the studies that nourished him nourished his pupils as well. He generally spoke from notes that he had carefully prepared, and that he carefully preserved. If these notes should be brought forth from their hiding-place and published, men would be astonished at the sweep of his thought, the versatility of his mind, and the fertility of his resources.

He appeared frequently as a preacher, both in the pulpit of the Hiram church and in the chapel. His sermons added much to his influence over his students. Here it should be said, when he came to the front in 1857, the character of the school somewhat changed: its genius was less theological or Biblical, and more secular or human. The ecclesiastical way of looking at things somewhat receded. But morals, religion, and Bible study were by no means forgotten: noble ideals of life and character — ideals of manliness,

courage, reverence, and truth — were constantly kept in view. What Arnold of Rugby called "moral thoughtfulness" — the inquiring love of truth and practical love of goodness — was made prominent. Charles Kingsley and Thomas Hughes were a great deal read in Hiram in those days, and the Hiram type of Christianity became somewhat "muscular." Withal, such of the students as could receive it were filled with the principal's own largeness of nature.

His rhetorical class — known in those days as "Garfield's division" — was a great theatre of interest and improvement. He had great skill in conducting such a class; especially was he a helpful critic. This class will not be forgotten by its members.

Strong as was Mr. Garfield's intellectual side, his moral side was even stronger. He was full of appreciation and generosity. He was keenly alive to the rights of men, even the lowest and the least worthy. He respected human nature. Tenderness, compassion, and sympathy abounded in him. His sense of justice to others was keen, no matter whether he always insisted upon its being rendered to himself or not. It hurt him to hurt others. He interested himself in the young and in the weak. He often joined the boys in their sports on the campus. Once two of his special friends were "choosing sides" for the game. Two small boys appeared and asked to be chosen. The choosers objected to them that they were small, and would spoil the play. "If they cannot play, I will not," said Garfield. They were chosen, and the play went on. In his address on "The Elements of Success" will be found this paragraph: —

> "I feel a profounder reverence for a boy than for a man. I never meet a ragged boy of the street, without feeling that I may owe him a salute, for I know not what possibilities may be buttoned up under his shabby coat. When I meet you in the full flush of mature life, I see nearly all there is of you: but among these boys are the great men of the future; the heroes of the next generation; the philosophers, the statesmen, the philanthropists, the great reformers and moulders of the next age. Therefore I say, there is a peculiar charm to me in the exhibitions of young people engaged in the business of education."

Gen. Garfield once told some Hiram students that no man is ever loved simply because he has a great or brilliant mind. He may be much respected, or greatly admired, but not loved. The intellectual ray is powerful, but also fierce and pitiless. It is not until the heart ray blends with the mental and tempers it, as the heat ray the light ray of the sunbeam, that the emotive nature is touched. Feeling lies deeper than logic can penetrate. Only the heart can speak to the heart. In harmony with this law so beautifully formulated, the students respected and admired his ability; but the force

that won them was the heart force. Garfield's great, tender heart, his all-embracing sympathy, his nice delicacy of feeling, his quick appreciation of everything ethically good or spiritually beautiful, will be remembered further and longer than his powerful logical faculties or his ample knowledge. He called out the demonstrativeness and affections of men in a way almost unprecedented. His heart, none but the utterly obdurate could resist. To him the phlegmatic would stir, the cold warm, and the icy melt. When he put his great brotherly arm around a discouraged or fainting boy, — poor, homesick, or blind to the way before him, — the boy very likely shed tears; but somehow the mists began to clear away from his vision, and his heart grew strong. Said one years ago, "Then began to grow up in me an admiration and love for Garfield that has never abated, and the like of which I have never known. A bow of recognition, or a single word from him, was to me an inspiration."

Perhaps it is needless to say that such a teacher and such a man was very successful as a school administrator. He had nothing of the regulation schoolmaster about him, and he put red tape to small use. He never spent his force on little things. He understood what *was*, and what was *not*, essential to discipline and good order; and he secured the first all the more readily because he was indifferent to the second. He always had a code of printed rules that he expounded each term; he exacted weekly reports of conduct: but his own personality was worth far more than both rules and reports. His management of disciplinary cases was skilful. On one occasion, after morning prayers, he read impressively selections from Prov. vii. He added, " . . . [naming three young men] are expelled from this school." Not another word was said; but the whole made a profound impression. He had unusual power in controlling and influencing bad boys. He did not always make them good; far from it: but he had so much heart and nature, was so free from cant and affectation, that rough fellows who despised a religious profession respected and loved him. Many a boy was thus inclined towards goodness, whom austerity and pretension would have driven to evil.

President Garfield left the academy for the field and the forum at the age of thirty years. But this was not until he had demonstrated his capacity for the highest educational work and honors. He had taught twenty-four terms; viz., three in the district school, six in Hiram before going to college, and fifteen afterwards, — eight years. Had he remained an educator, which he had not intended to do more than he had intended to preach, he would have proved himself worthy of the highest position in the land. Other things being equal,

he was never greater than in Hiram in the years 1856 to 1861. He came in contact with from one hundred and seventy-five to three hundred students a term, of all ages from fifteen to twenty-five, and of all grades of ability. These students he fired with enthusiasm. The ordinary terms of respect and affection did not meet the case. Their idea of him was the largest that they were capable of forming. They could think of nothing more. It is common for students to form exaggerated opinions of their teachers, — opinions that larger knowledge of men generally shatters; but not so in this case. As their minds grew with years, he grew too, and they never had occasion to measure him over again. As these young hero-worshippers went out from Hiram, some to college and some to business, Mr. Garfield was the standard by whom they measured men. As, with rapturous devotion, they told men of his qualities, they were met sometimes with incredulity, sometimes with a pitying smile, sometimes with a sneer. They were told that Mr. Garfield might answer very well for a little place like Hiram, but that they must not expect to see men accept their estimate of him. But they continued to insist that time would show him equal to the highest honors. The very title by which they had been accustomed to call him at school clung to their lips. Hiram was not then a college, and the teachers were not commonly called professors. He became colonel, general, representative, senator, and President; but plain "Mr. Garfield" always seemed to befit Hiram students. Still further, his home was in Hiram for many years after he ceased to teach. His relations to the school and to the community in those years will soon be described. Here it suffices to say, his influence was largely felt by the students, even when he did not know their names or faces. What is more, to gain his approval in school, or to be worthy of it afterwards, was an ideal that many a young man or woman carried out into life. These things Mr. Garfield did naturally, and almost unconsciously. His method was spontaneity. However, as years went by, his Hiram friends were able to render him substantial service in his public career. And this they were always glad to do. To serve him, some of them hardly counted their lives dear unto themselves.

Those who have witnessed the marvellous drawing out of men's hearts towards Gen. Garfield in the last year have simply seen on a vast scale what was seen in Hiram school more than a score of years ago. The revelations of Washington and Elberon have caused little or no surprise to the Hiram fellowship; only the lamentable occasion that brought out the revelations has been a surprise to them. The

faith and fortitude, the constancy and courage, the patience and piety, that shone so bright in the White House and in Mr. Francklyn's cottage by the sea, are just what this fellowship, the occasion being given, would have expected. It was said that the eyes of the wife of William the Silent were full of unwept tears; similarly, the heart of the late President was full of unshed goodness, gentleness, and tenderness.

Perhaps the foregoing paragraphs, taken alone, will create a false impression. Let it not be supposed that the Hiram regimen was only soft and winning. The principal's hand was as firm as his heart was tender; and on due occasion he could be exceedingly severe. He never scolded, never became angry; but his reproofs were all the sterner because of the large background of heart.

Boys of ability and promise came to Hiram in the period of 1856–61, as they still do, having meagre ideas of studies and of themselves. They expected, possibly because they had given the matter small thought, to study two or three terms, and then to go back to the farm or the shop. In time, many of these were touched by Garfield's energizing power. Their minds began to open; new aspirations began to stir in their hearts; and they longed to carry their studies beyond the limits first set. Often these boys had troubles peculiarly their own. Some were poor; some were tethered to home; some wanted courage and self-reliance; some tended to despondency. Mr. Garfield found them out. He remembered his own experience. He seemed to read by intuition a mind that teemed with new facts, ideas, and impressions; that was stirred by a new spirit and power; that sighed for wider and higher activity. These students he aided with his counsel and encouragement. He advised and sometimes expostulated with parents. He took great pleasure in "capturing boys," as he called it; and more than one was saved to himself and to the world by his friendly mediation. A boy who wanted to study, and was poor, called out his full interest.

Mr. Garfield's administration lifted the Eclectic Institute into new prominence. The attendance of students did not indeed increase, owing to the growing competition of other schools, especially within the Disciple pale; but its character was raised, and its influence was enlarged. There was a higher standard of scholarship. Hiram culture became more mature. Students outside of the church were drawn into the school in increasing numbers. Educators became familiar with the name of Hiram and its head. The scope of the work done is pretty fully shown by the principal's report to the State Commissioner of Common Schools, for the year 1858. It is here somewhat condensed:—

"Students since the founding of the Institute, counting by terms, 5,045: males, 2,881; females, 2,164. Twenty-five students have graduated from regular colleges, and ten are now in college. The Board of Instruction consists of a principal and seven associate teachers, four male and three female. The number of students enrolled for the year ending Aug. 31, 1858, by terms, as before, 520. Two have entered college during the year, and eight now here are one year advanced in the college course. Number of students studying common branches, 250; ancient languages, 75; modern, 8; higher English branches, 190.

"The aim of the school is to hold the rank of a first-class collegiate seminary: to train teachers for their duty in the public schools, and to prepare students for an advanced standing in college. One of the peculiarities of the Eclectic is a clause in its charter providing for the introduction of the Bible as a text-book. It is introduced in no sectarian attitude; but the sacred literature, history, and morals of the Bible are regarded as legitimate themes for academic instruction. The Institute is constantly increasing in influence and number of students, and is now more prosperous than ever."

Gen. Garfield was always absorbed and happy in his work, in studies, in teaching, in arms, in legislation; but he ever looked back to his teacher life with peculiar satisfaction. Addressing the National Association of School Superintendents in 1879, he said: —

"I feel at home among teachers; and I may say, I look back with more satisfaction upon my work as a teacher than upon any other work I have done. It gives me a pleasant home feeling to sit among you, and revive old memories."

In the Hiram period he was full of ambition and strength; he had plenty of work and plenty of leisure; his friends and fellow-workers were congenial; and his joyous nature ran full and free. To all who beheld it, his teacher life must remain "a thing of beauty and a joy forever." Let the reader substitute his name for Miss Booth's * in this passage: —

"As the earlier teachers were called away to other fields of duty, their places were supplied by selection from those who had been Eclectic students; and thus Miss Booth found herself associated with teachers whose culture she had guided, and who were attached to her by the strongest ties of friendship. I know how apt we are to exaggerate the merits of those we love; but making due allowance for this tendency, as I look back upon the little circle of teachers who labored here, under the leadership of our honored and venerable friend Mr. Hayden,† during the first six years of the Eclectic, and upon the younger group associated with me from 1856 until the breaking out of the war, I think I wrong no one of them by saying that for generous friendship and united, earnest work, I have never seen and never expect to see their like again. Enough new members were added to the corps of teachers from year to year to keep alive the freshness of young enthusiasm; and yet enough experience and maturity of judgment were left to hold the school in a steady course of prosperity."

* Almeda A. Booth was associated with Garfield in the Hiram work throughout. The extract is from his address upon her life and character.

† Mr. A. S. Hayden, the first principal of the Eclectic Institute.

III.

GARFIELD, THE STATESMAN.

The great interest that President Garfield always took in education, even after he ceased to teach, and grew to influence as a statesman, is well known to those who have only a general acquaintance with his life. Still, the extent of his interest, and the value of his contributions to educational discussions and literature, are known to very few. He made many lectures and addresses at institutes, at college commencements, and to schools that he casually visited, which were either never published, or were meagrely reported in the local press. He was always a generous respondent on such occasions, and always said something worth remembering. Many a teacher did he thus cheer, many a student stimulate, many a parent arouse to his duties to his children, many a citizen awaken to his relations to public education. He was always keenly alive to politics, and to party politics; but never, in the most exciting times, did he lose his interest in the progress of knowledge and the education of the people.

His efforts to advance the educational interests of the country may be grouped under three heads.

1. — *The State and Education.*

Here his influence was felt along several lines of educational enterprise. These will be mentioned in order.

a. The National Bureau of Education. — Feb. 14, 1866, Mr. Garfield presented to the House of Representatives a memorial of the National Association of School Superintendents, recently held in Washington, asking for the establishment of a National Bureau of Education; also a bill that accompanied said memorial. This bill was read twice, referred to a select committee of seven, and ordered printed. This committee consisted of the following gentlemen: Garfield, of Ohio; Patterson, of New Hampshire; Boutwell, of Massachusetts; Donnelly, of Minnesota; Moulton, of Illinois; Goodyear, of New York; and Randall, of Pennsylvania.

April 3, following, Mr. Garfield reported from the committee a substitute for the original bill. This bill, known as House Bill No. 276, was wider in its scope than the bill submitted with the memorial. Made a law, it would establish a department of education. June 5 and 8, it was debated by the House at considerable length.

In its favor it was argued that the department proposed would be of great service in gathering and publishing statistics and other information concerning education; also, that education in the South needed particular attention, that the States were not likely to give. It was urged against the bill that such a department was unnecessary and unconstitutional, and that it would be expensive. Mr. Garfield closed the debate. He had granted so much of the hour allowed by the rules to other members, that his own speech was cut short by the speaker's hammer. However, in obedience to the earnest request of friends of education, he wrote out his speech in full, and published it for general circulation. The bill was lost, 59 yeas to 61 nays. June 19, a reconsideration was carried by a vote of 76 to 44. On this question, Mr. Garfield said that the measure was framed "at the earnest request of the school commissioners of several of the States." He added, "It is an interest that has no lobby to press its claims. It is the voice of the children of the land, asking us to give them all the blessings of our civilization." It now passed, 80 yeas to 44 nays. Immediately the bill went to the Senate, and was referred to the Judiciary Committee. At the next session, Jan. 30, 1867, Mr. Trumbull reported it back to the Senate. After brief discussion, it passed, Feb. 27. The President's approval, March 2, made it a law.

That this beneficent law was peculiarly Mr. Garfield's work, is shown by the facts recited. He introduced the subject to the House, was chairman of the special committee, drew up the bill, and was its principal champion on the floor. The bill as reported by him was not changed in any particular in either house. What is more, the great change wrought in the temper of the House, as shown by the votes (June 8, 59 to 61; June 19, 80 to 44), was almost wholly due to the persistent zeal with which he urged the measure in private.

Apparently, the Department of Education was in advance of public sentiment; certainly it was in advance of congressional sentiment No sooner was it created than it was attacked. In these later debates the measure was accredited to Garfield's "persuasive eloquence."

One member said it was carried by "dint of personal entreaty." The author of the department defended it point by point. He protested time and again against "putting out the eyes of the government." But in spite of his efforts, the department was reduced to a bureau in the Interior department, the appropriations were cut down, and the bureau was for a time thoroughly crippled. By and by Congress began to deal more generously with

this child of its creation; and the appropriation for the fiscal year ending June 30, 1882, is more than fifty thousand dollars,* the largest ever made.

The bureau immediately attracted the attention of friends of education in the Old World. John Bright wrote this letter concerning it: —

ROCHDALE, Jan. 4, 1868.

DEAR SIR, — I write to thank you for sending me a copy of Gen. Garfield's speech on education. I have read it with much interest.

The department now to be constituted at Washington will doubtless prepare statistics which will inform the world of what is doing in the United States on the education question; and the volume it will publish will have a great effect in this country, and indeed, in all civilized countries.

You will have observed the increased interest in education shown in England since the extension of the suffrage. I hope some great and good measure may be passed at an early period.

I am very truly yours, JOHN BRIGHT.

GEORGE J. ABBOT, Esq., United States Consul, Sheffield.

b. The Army Post Schools. — In the year 1866, Gen. Garfield brought forward another educational measure that has already yielded fruit, and that promises to yield still more in the future. May 2, he moved a new section to the Army Bill then pending, as follows: —

"*And be it furthere nacted*, That whenever troops are serving at any post, garrison, or permanent camp, there shall be established a school where all enlisted men may be provided with instruction in the common English branches of education, and especially in the history of the United States; and the Secretary of War is authorized and directed to detail such commissioned and non-commisssioned officers as may be necessary to carry out the provisions of this section."

He supported the proposition in this short speech: —

"Mr. Speaker, I only ask a word on that subject. One of the greatest evils known in standing armies is the evil of idleness, the parent of all wickedness, and especially the ignorance connected with it. I hope we shall be able to do something to eradicate that evil from our army, and to do something to make it a patriotic army. In the wearisome months spent in camp and at posts and garrisons, there is nothing for the soldiers to do but to indulge in some deviltry. It is a great evil in the army. I want the enlisted men to have opportunities for culture; and I ask that the Secretary of War shall detail officers fitted for that purpose. I think such a section will relieve the army from this evil. It has been drawn hastily, but I think will commend itself to the country.

"One word more: if it were in my power, I would make a law that every man and woman in the United States should study American history through the period of their minority. We cannot do that throughout the United States generally, but we can enforce it to some extent upon the privates in our army."

The proposed section was added to the bill; it became law, and forms now the substance of Section 1,231 of the Revised Statutes.

* These are the yearly appropriations: 1867, $1,678.67; 1868, $11,757.17; 1869, $23,151.82; 1870, $5,842.50; 1871, $14,606; 1872, $26,669.89; 1873, $34,835.79; 1874, $34,771.07; 1875, $35,562.53; 1876, $35,561; 1877, $32,061.79; 1878, $30,340; 1879, $31,220; 1880, $36,720; 1881, $45,580; 1882, $50,155.

Little or no attempt to carry out this provision appears to have been made until the end of the year 1877. In December of that year, the Secretary of War — "believing this to be an important provision of law, from the full enforcement of which much benefit would accrue, not only to the service, but to the enlisted men, many of whom sadly needed the contemplated instruction" — convened a board of officers to consider what steps should be taken to fully carry it out. This board, — consisting of the Quartermaster-General, the Adjutant-General, and the Judge-Advocate-General, — after full inquiry, reported an elaborate code of rules for the government of post-schools, libraries, and reading-rooms. The report was approved by the Secretary, and announced to the army in General Order No. 24. The results, up to November, 1879, are summed up by Gen. Eaton, the head of the National Bureau, in his report for that year. Since 1879 the results have been even more satisfactory. Rev. Geo. G. Mullins, chaplain of the Twenty-fifth Infantry, is now supervisor of education in the army, charged with the general administration of the law under his superior officers. He is enthusiastically devoted to the work, and the post-schools are thriving under his care.

c. "*The Hoar Bill.*" — President Garfield made a speech on "National Aid to Education," Feb. 6, 1872, in support of the proposition to dedicate the public lands to education. The subject under immediate consideration was House Bill No. 1,043, — "To establish an educational fund, and to apply the proceeds of the public lands to the education of the people," — what is known as the "Hoar Bill." Unfortunately, thus far this beneficent measure has not yet become a law,though steadily growing in public favor; but when it shall finally triumph, Gen. Garfield's early and able advocacy will not be forgotten.

d. Education and the South. — President Garfield studied "the Southern question" profoundly. In a private letter dated Dec. 30, 1880, he wrote, "I have no doubt that the final cure for the 'Solid South' will be found in the education of its youth and in the development of its business interests; but both these things require time." No part of his inaugural is more eloquent than that in which he presented this subject. What is more, in the last private conversation the writer ever had with him (the evening of March 6, 1881), he said, "I am going to keep that subject before me all the time, and shall see that something is done in that direction if possible." His plan was not worked out, probably, when he was stricken by the assassin's bullet; but his heart was fixed upon this as a prominent feature of his administration, — national aid to public, and especially to Southern education.

2.— *The State and Science.*

His views touching this question were always liberal and progressive. In the Ohio Senate he strove to secure the enacting of a law authorizing a geological survey of the State. He submitted a bill for that purpose, and supported it in a lengthy and able report. He also made a similar report upon weights and measures. At Washington he supported every intelligent and practical scheme touching the extension of scientific knowledge, or its reduction to practical uses: the coast survey, the lighthouses, the signal service, the life-saving service, Arctic exploration, and the geological and other surveys.

Every man who went to him with a well-considered proposition pointing in such directions as these found him an eager and appreciative listener. The scientific men of the country, especially those who were in any way serving the government as well as the public, — geologists, botanists, astronomers, engineers, and explorers, — came to rely greatly upon him for securing the appropriations that they needed to carry on or enlarge their work. Nor was this solely because he was for some time the head of the Appropriations Committee. For many years he was a regent of the Smithsonian Institution. Here he was brought into official relations with Agassiz and Henry, both of whom became his intimate friends.

Besides, he made a strenuous attempt, in 1869, to secure a more rational and efficient census law. After months of labor enthusiastically devoted to the subject, he carried his bill through the House, but it failed in the Senate. The law of 1880, under which our only real census has been taken, is little more than his bill of ten years before, reproduced.

Here it may be remarked that no man in either house of Congress, from 1863 to 1880, was more constantly on the outlook for opportunities to do something, by way of legislation, for science, education, and general knowledge. The man who cares to go through the congressional proceedings will probably be surprised to find how often he came forward with an amendment to a bill, or with an original feature, professing to reach some such end that he thought valuable. Some of these failed, but many succeeded.

3. — *Methods and Studies.*

President Garfield graduated in the traditionary college course. In 1854–56 the modern courses of study had not been established,

at least fully, in any American college. He was an excellent classical student and teacher. Probably he did not so much excel as a grammarian, but few students or teachers equalled him in reading thoughts out of (or into?) Latin or Greek. After he became absorbed in public affairs, he kept alive his classical reading, more particularly the Latin poets. Once he said, "Early in life men read Virgil; later, Horace." Certainly Horace grew upon him with the flight of years. Since his death, it has been said that his collection of editions of the poet is one of the finest in the country. The last summer, Hon. W. M. Evarts brought him a new and choice edition that he had found in Europe. This was presented to the President on his sick-bed, and gave him much pleasure. But, while thus drawn to the old literatures by taste, appreciation, and association, he could not help seeing that the new conditions — the enormous extension of knowledge, the growth of modern literature, and the development of industry — called imperatively for a widely differentiated education. The "new education" took a strong hold upon his mind. He believed in the new courses of study. He favored a revision of the classical course. He said Greek and Latin must somewhat give way, but confessed at the time that the proposition was like putting his brothers and sisters out of doors. His views on these subjects matured as early as 1867. That year the Eclectic Institute became Hiram College. Naturally, he was called upon to start the old school upon her new course. This he did in the address entitled "College Education," in which he stated his conclusions both fully and strongly. In one direction they are also developed in "Elements of Success in Life." Even at the time when he spoke at Hiram (1867), and before, the era of change in college study had begun. Since that day, the new spirit has reached and influenced nearly every college in the land. Attention may also be called to the short speech before the Washington Convention of School Superintendents in 1879. This shows that he thought the public schools open to much criticism and amendment. Perhaps it is proper to add that his private utterances upon this point were even stronger than those made in public.

The foregoing rapid outline embraces the main features of the subject, "President Garfield and Education." It lacks much of the interest and spirit that detail would give; but if one were to go into detail, a volume would be required. The sketch will show how great and valuable his service has been, both as a teacher and as a legislator, and it will also show how great is the loss to the cause of education, occasioned by his untimely death.

SCHOPENHAUER.

BY AMALIE J. HATHAWAY.

In Bowen's "Manual of Modern Philosophy" we read of Schopenhauer that "Not only is much of his philosophy unsound and pernicious in tendency, but the author himself was eminently a bad man." And further: "In his books he appears as a misanthrope, a pessimist, and an atheist; a hater of the world and of everybody in it, and one who believes in nothing but his own merits and the injustice with which he was treated by his contemporaries."

This is the summary judgment by a Harvard professor.

No doubt the sombre genius of the "Frankfurt misanthrope," who found himself at discord with the world almost from his cradle, wears a forbidding aspect, reminding us of the words of Mephistopheles: —

> "I am the spirit that *denies*, and that with justice;
> For all that is created were better uncreated:
> 'T is fit that it should die!"

He discourages, perplexes, confounds us by turns, but never fails to interest; entangling us in what we feel to be an enormous sophism, yet from which escape is not easy, held fast as we are by that brilliant rhetoric, by an eloquence such as philosophy has seldom owned, and withal by Schopenhauer's strong grasp at the truth. To do justice to the man and his thought seems to be an undertaking almost hopelessly difficult. An impetuous, passionate nature follows Schopenhauer to the very sanctuary of pure philosophizing: interrupting, distorting, coloring his thought; seldom permitting the intellectual calm necessary to philosophic speculation in its purity. He is a man of whom Comte might have said, "He thinks with the back of his head," — Comte believing the cerebellum to be the seat of the emotions. Thus all the moral and æsthetic aspirations of the man, all his love and all his hate, impressed themselves upon his philosophy, producing a phenomenon hard to understand and difficult to deal with. Buddhism transplanted to the good old Emperor city of Germany; self-annihilation through asceticism as the central dogma of a modern system of ethics; Asiatic inertia, *Nirvana*, preached to our working age in the face of its intense activity, — all this may well astonish and perplex us. And yet this philosophy, which pronounces our very existence a crime which must be expiated; this philosophy with its paradoxes, its difficulties, and its

contradictions; this materialistic idealism which ignores evolution, has proved itself a genuine offspring of the age, in the sway which it exercises, the vitality which asserts itself under various modifications, and the vexation of spirit which it is causing to its enemies.

Arthur Schopenhauer was born in 1788, at Danzig, that ancient commercial centre and outpost on the far Baltic coast, — the sombre, frozen Northeast, which has the breath of Lithuania and Russia upon it. His father was a merchant, — a man of wealth, culture, and travel, but withal of a somewhat harsh and savage disposition; his mother, the Johanna Schopenhauer who afterward became famous in the litera y world, and whose house in Weimar was a favorite resort for that charmed circle of distinguished men and women of which Goethe was the centre.

Much of Arthur Schopenhauer's youth was spent in travel, of which both parents were unusually fond. When in 1802 the old Hanseatic city was incorporated with Prussia, then the elder Schopenhauer, a stern republican and anti-Prussian, turned his back forever upon the city of his forefathers, fallen and disgraced as he considered her, and with his wife and boy spent most of his time in travel, residing at Hamburg during the intervals. Thus the boy visited France, England, and various parts of Germany, imbibing everywhere enough of the spirit of land and people to serve as basis for a cosmopolitan culture. His father had destined him for a commercial career, and with his usual inflexibility of purpose, actually caused the boy to enter an apprenticeship. As may well be supposed, the boy chafed and fretted under this, nor did it improve the morose and gloomy disposition which had asserted itself ere this. Soon after the father's death, the youth of seventeen left the hated vocation and began his student life, entering the gymnasium at Gotha. Afterward he studied at Weimar, at Gōttingen, and Berlin. At Weimar, the young student did not reside under his mother's roof, at her express desire, although he seems to have spent most of his evenings at her house. The reason, which is characteristic of both mother and son, appears in one of her letters: "I have always told you," she says, "that it was difficult to live with you; and the better I know you, the more I feel the difficulty increase. What repels me does not lie in your heart, — it is in your outer, not your inner being; in your ideas, your judgments, your habits: in short, there is nothing concerning the outer world in which we agree. Your ill humor, your complaint of things inevitable, your sullen looks, the extraordinary opinions you utter like oracles which none may presume to contradict, — all this depresses and troubles me without helping you."

Arthur Schopenhauer took his degree at Jena, after presenting a thesis on "The Fourfold Root of the Principle of Sufficient Reason," a dissertation which attracted much attention, being at once recognized as a truly valuable contribution to philosophic thought. Much elated, the young doctor hastened to Weimar, to present to his mother this first-fruit of his labors. Johanna Schopenhauer turned over the leaves, glanced at the title-page smilingly: "What! the fourfold root? this savors of the apothecary shop." This irreverent trifling enraged the young philosopher; he spoke some bitter words, and parted from his mother never to meet her again.

In 1818 appeared the first volume of "Die Welt als Wille und Vorstellung" (The World as Will and Presentation), Schopenhauer's main work. Contrary to expectation, this work received no attention whatever. Any amount of adverse criticism would have found this philosophic Ishmaelite prepared and ready for the battle; but this silence and utter neglect were a disappointment which never through life lost its keen, poisonous edge. Nevertheless, with a consciousness of his worth which was with him a prime conviction, Schopenhauer undertook to lecture at Berlin. But during this brilliant period, when the Hegel enthusiasm was at its height, there was no room for the pessimist's dismal philosophy. While students from all parts of the world flocked to the lecture-room of the reigning philosopher, while the name of Hegel was on all lips, while the youth of Germany were carried along, head and heart, by the magic of this new revelation, Schopenhauer stood aloof, doomed to obscurity and neglect. After persistent efforts, the lecturer found himself still before empty seats, with no encouragement from any quarter. He retired at length, choosing Frankfurt for his abode, where he lived a misanthropic life, alone with philosophy and his own proud, wounded spirit.

There came a time, however, when the misanthrope became the "Frankfurt sage"; when his rapidly striding figure was considered one of the sights of the city; when interviews with Schopenhauer were sought by distinguished strangers as a high privilege; and when the landlord of the Hôtel d'Angleterre, where the philosopher was wont to dine, answered the question whether he was entertaining any royal guests, with, "Yes, Dr. Schopenhauer." (Helen Zimmern's "Life of Schopenhauer.")

During the last ten years of his life, the philosopher found himself surrounded with admiring disciples, found his works eagerly sought after and commented upon, found friend and foe rivalling to increase his fame. He died in his seventy-first year, in 1859, having enjoyed

vigorous health of body and mind to the last. This Indian summer of his life almost took the frown from the brow of the pessimist; still his venomous contempt for Hegelians and academic philosophy remained; his gigantic self-esteem, if possible, increased.

The constant manifestations of what appears an all-absorbing egotism become less reprehensible, or at least intelligible, when we consider Schopenhauer's unlimited, lifelong devotion to his solitary labors, which must needs have been sustained by an intense consciousness of his own worth. He seems to have had a feeling of worship for the productions of his own genius; an offence against them was the sin against the Holy Ghost of philosophy, which could not be forgiven.

Whatever may have been the great philosopher's faults, it is the testimony of his best friends that under a brusk, warlike, haughty exterior, there lay a warm, tender nature, — sensitive, sympathetic, keenly alive to the sufferings of fellow-creatures. (Letters of J. G. von Quandt.) "Genuine misery never appealed to him in vain," says his biographer.

HIS METAPHYSICS.

With some rhetorical license, I have called Schopenhauer's philosophy a materialistic idealism. We will first examine the fundamental, the idealistic aspect.

At the outset, Schopenhauer emphasizes the fact that all philosophy must be primarily and ultimately idealistic. It must begin with the recognition that all immediate certainty is neither more nor less than a fact of consciousness; and a fact of consciousness, as such, an idea. We know no sun, no stars, but only an eye that sees them; no earth, but the hand that grasps and the foot that touches. And even this hand and this foot exist for us but as products of the intellect, as objects of perception; the intellect *constructs* them out of certain primary sensations, — sensations of sight, touch, and muscular action.

Whatever there is in our perceptions of a purely objective origin, this it is impossible to separate from the subjective product, from that into which sense and intellect have transformed it, from the *idea*. The idea is a unity of subject and object, and by no possible means can the two be separated; by no possible means can this world about us be disengaged from the world within us. Whatever object you may mention, — this chair, this table, this gas-jet, — it is an idea still; a product of your mind, fashioned out of your sensations, and containing subjective elements which cannot be separated from the

objective correlates. Therefore says Schopenhauer, "Die Welt ist meine Vorstellung"; a phrase which has been translated, "The world is my presentation," "The world is my notion," and which I prefer to render, *The world is my idea.*

Notwithstanding this idealistic position, Schopenhauer still inquires, What is this cosmos aside from my idea? Whether he can legitimately ask that question, I shall not attempt to discuss here. Suffice it to say that Schopenhauer's solution of the problem is peculiar to himself, and proclaimed by him as the prime discovery in all philosophy.

It is clear that it would be impossible to answer the above questions if ideas were all the facts of consciousness, — that is to say, if the intellect were all there is in the human mind; for then the intellect could know nothing beyond its own products. But our ultimate nature is twofold: there is will as well as intelligence; we know our own body in a twofold way, — not only as an object of perception, but as moving, active, *the expression of will*, or in Schopenhauer's phrase, the *objectivation of the will.*

If, then, we ask the question, What is this world of objects *outside* of our perceptions? there is only one of two answers possible: either we are in utter ignorance on this point, and things in themselves are forever unknowable, or we must look upon all other objects as analogues of our own body, and like it, the expression of will. Schopenhauer considers the latter alternative not only as legitimate, but necessary; and thus he announces the second and deeper aspect of his philosophy: *The world as will.*

Leaving aside all questions as t the speculative validity of this proceeding, we will look more close / at this doctrine of the cosmic will.

All nature is but its expression in the various stages of objectivation. The cosmic will in its primary character is absolutely devoid of intelligence; it is the dark, blind impulse that manifests itself in the primary qualities of matter, — inertia, gravitation, an attracting and repelling, the omnipresent forces which build the groundwork of this universe. Upward from these, through the countless forms of inanimate nature, toward life in its richness and beauty, — the flower, the tree, the animal creation, — upward labors the creative will toward the light of intelligence, arriving at its crowning manifestation in the conscious life of the human intellect. *The human brain, with intelligence as its function, is the final, the highest objectivation of the cosmic will.* Intelligence is therefore not a primary fact of our being; the *will is at the core*, the creator of this

visible body with its organs and functions. Intelligence is secondary, phenomenal, created by the will; a mere function of a physical organ, — developing, living, and dying with the brain.

In this, then, Schopenhauer is at one with Büchner: "*No thought without brain.*" Nevertheless, he is far from calling himself a materialist, — pronouncing materialism, which looks upon matter as the ultimate reality, an enormous begging of the question. It explains the primary fact through the secondary, the intellect through one of its objects, the known through the unknown.

More than once does Schopenhauer assail the presumptions of materialism with his inimitable satire; comparing it in one instance to the famous Baron Münchhausen, who, in crossing a stream on horseback, keeps himself and his horse afloat by means of his pigtail, which he has thrown forward over his face, holding to it firmly and pulling with all his might.

The cardinal fault of materialism is its uncritical use of the conception Matter. What is matter? Honest materialism must answer, We don't know. Both matter and force, objectively speaking, are but *names* given to the ultimate *unknown*.

For philosophy, matter is like space and time, a mere form of the intellect, a subjective condition of perception. It is that which the will interposes between itself and the intellect, as a condition of its own manifestation. The will is essentially one, the universe as a unit; but by means of matter, space, and time, it multiplies itself to the intellect. Thus matter is the principle of individuation, the condition of all manifoldness, of all phenomenal existence, appearing to the intellect as the principle of all activity. All phenomena are therefore material phenomena; all individual existence is material existence: that is to say, it *depends* on matter for its condition. Here, then, we have the metaphysical groundwork of Schopenhauer's system.

Beginning with the world as idea, it recognizes a deeper reality in the world as will, and finally accepts the world of matter as the actual world, the only world of individual existences, although with the understanding that matter itself is a form of the intellect and a creation of the will.

It would hardly be justifiable to omit a statement, however brief, of Schopenhauer's doctrine of causality.

The relation of cause and effect is not that of force to its manifestation, of will to its expression, but simply a relation of one phenomenon to another, of one manifestation of force to another. Forces themselves do not enter the chain of cause and effect. Objectively,

causal explanation gives only a constancy of relations among phenomena; subjectively, it is the law of the understanding which forces us to look upon phenomena as depending upon one another, on every change as conditioned by a preceding change.

PESSIMISM AND ETHICS.

Outside of Germany, Schopenhauer is known chiefly as the great representative of nineteenth-century pessimism. It is our business now to examine as briefly as we may this ill-famed doctrine; and since Schopenhauer's pessimism and his ethics are closely related, I shall consider both under the same head.

The fundamental assertion of pessimism is, that the world, such as it is, had better not be; that it is essentially evil; pain and wrong are its key-notes. This Schopenhauer undertakes to prove both empirically and philosophically, declaring himself to be the first among modern philosophers who honestly admitted and courageously faced this fundamental cosmic fact. According to the system of Schopenhauer, the foundations of pessimism lie deep in the nature of the cosmic will. The will in its tendency to individuation is a blind, irrational striving, without rest and without ultimate object. It is the primary impulse of every creature, the clinging to life, the struggle to exist; or in Schopenhauer's phrase, the will-to-live.

Fundamental as this prime fact in nature, down at the root of things, is also the necessity of pain. Pain is the inseparable companion of the will-to-live, its primary condition. Will springs from desire, which is want, pain; it meets with resistance, which is pain. Satisfaction is but momentary, giving birth to new desires; happiness is transient in its nature, — negative, as it were; pain is positive, the dark background of existence. We must therefore trace the infinite misery of all created beings to the very nature of the will in its tendency to individuation, its striving toward individualized existence.

And this yet for another reason: the condition of creation is destruction; life is built upon death, gain upon loss, and in the pitiless struggle for existence, creature must necessarily prey upon creature. See how the hawk pounces upon the twittering swallow, and how this swallow herself must live on the insect that plays in the sunshine! Suffering, strife, and death are everywhere, since all forms of existence must struggle with each other for the possession of time, space, and matter. The cosmic will, like Chronos of old, lives but by devouring its own children.

Among mankind the struggle for existence is even more terrible to contemplate, for suffering deepens with intelligence. The first natural impulse, the will-to-live, is selfish in its very essence. It is the mere blind impulse toward self-perpetuation, be it at the cost of a world's misery. While the individual will remains unbroken, intelligence is but its servant; knowledge is sought only for its practical value. What will it do for me? is a question which determines every act and the value of every object. But since the selfish will is doomed to ceaseless disappointment, the misery of mankind would be hopeless and endless on the basis of the first natural impulse, the will-to-live.

The redemption of the race lies in its ethical development, and all ethical development is based on the negation of the individual will; or to render Schopenhauer's phrase more nearly, on the self-annihilation of the will-to-live.

As intelligence rises above the individual will, perceiving at once the worthlessness of all striving and the fearful character of the struggle; when the infinite misery of existence dawns upon it as the prime fact in nature; when self is forgotten in the contemplation of the whole, — then the pursuit of happiness is recognized as an illusion and an evil, and the will-to-live as humanity's great guilt. In this lies, according to Schopenhauer, the ethical value of pessimism. Its deep, realizing sense of the universal suffering; the disposition which takes upon itself the grief of the world, feels it as its own; the recognition of the worthlessness of all individual striving; the condemnation of the individual will, — all this makes of pessimism the basis of the highest moral development, preparing the way for self-renunciation and moral regeneration.

Thus, not only Buddhism but Christianity is essentially pessimistic. Christianity came to mankind with an intense conviction of the worthlessness of the present world, an all-absorbing sense of its wrong and its pain and its guilt; only that Christianity lights up the gloom of the earth-life with the hope of heaven. Optimism, according to Schopenhauer, is not only shallow and false, but absolutely wicked, being a mockery at the measureless woes of existence.

The ideal of moral perfection is asceticism, the extreme of self-renunciation. It is the putting into practice of the conviction that the pursuit of happiness is a chimera and an evil; that existence itself is a wrong which must be expiated; that for humanity, as well as for the individual, not to be is better than to be. The history of asceticism is given as replete with ethical instruction, and as pointing to

an origin deeply rooted in the nature of the human soul, deeper than any dogma or creed.

Martyr and saint, hermit and fakir, are brought before us; in a variety of garbs the same spirit, and everywhere bearing the same stern significance. Thus the monk of La Trappe, pale, emaciated, worn to a shadow by a life of privation and a discipline of terrible severity, kneeling to ask the blessing of the worldly stranger, — this sad-faced monk is a spectacle not only touching, but awe-inspiring in the grandeur of self-abnegation; and this even in the midst of our nineteenth century with its optimistic rationalism. In pleasure-loving France, this order of La Trappe, of all the monastic orders, has preserved itself through the centuries in its purity and its appalling severity; a phenomenon, to the world-deep significance of which only pessimism can furnish the key.

It might be supposed that Schopenhauer, in regarding annihilation of self as the crowning phase of ethical development, advocates suicide. This is far from being the case. Suicide is not an act of self-abnegation, but of self-assertion; it is a violent struggle to escape from pain, not its quiet acceptance; it is the disposition which rebels against the burdens of existence, not the calm renunciation of every desire to exist. Suicide and sainthood are opposite poles.

But what matters it? may be asked. If death is the end, what matters it in what spirit a man die?

The answer involves an examination of Schopenhauer's doctrine of immortality; a doctrine which in its lofty mysticism is worthy of the Bhagavad Ghita, and which is set forth with an eloquence and a poetic beauty which will be entirely lost in a brief abstract statement.

The intellect dies because it is the function of a material organ; the will is indestructible. Consciousness passes away with the brain, but the will which created the body and built the brain is immortal. The only question is, whether it shall remain individual will, reassert itself in other forms of existence, or whether it shall deny itself and return to the all. Suicide achieves the former, self-abnegation the latter. In self-abnegation the will becomes impersonal, anti-individual, anti-cosmic, leading to the termination of the cosmic process, the annihilation of the present world, to Nirvana.

What Nirvana is, Schopenhauer judiciously does not presume to know. It is merely the final negation which crowns the cosmic process. He charges us to remember, however, that all negation is relative; absolute nothing is inconceivable; nothing is only the negation of something as known to us.

Thus Nirvana is only the negation of existence, such as we know it. What it may be in itself, on its positive side, — this transcends the possibilities of human thought; we have reached the boundary line where all questionings must cease.

But a mystic foreboding, a deep inner sense of Nirvana — the life above life — is ever present to the poetic consciousness of mankind. Only the small, narrow, selfish mind has a haunting fear of death; the good and the great feel their immortality.

I have endeavored to present Schopenhauer's daring scheme in what seemed to me its most rational aspect, giving as fair and careful a statement of the pessimistic doctrine as is possible within a brief space.

ÆSTHETICS.

Schopenhauer's æsthetics have been dwelt upon by critics as a region of brightness in the midst of that dark philosophy. There is a wealth of the art spirit here, which lifts the philosopher for a time from out the shadows of pessimism. At the base of the æsthetics, we find the Platonic doctrine of ideas; a doctrine of which there is a full recognition, and one might say a loving elaboration.

The cosmic ideas, — that is to say, the permanent forms or types which reveal themselves in the multitude of created beings, — these are the primary, most immediate manifestations of the creative will. While nature makes no account of individuals, she has great care for the preservation of types. Types are exempt from the law of destruction, because they have a reality deeper than time, space, and matter. Like the sunbeam, which is motionless, though cutting across the path of the tempest; like the rainbow, which hangs over the cataract, unmoved in its serene beauty, while the drops which give it birth are breaking and dying every instant on the foaming surface below, — thus stands the eternal idea, the typical form, amidst the myriads of individuals whose life is but a day.

Every object in nature is beautiful in proportion as it is an adequate realization of its idea. Imperfections and deformities arise from conflict, — the conflict for the possession of matter; from the resistance which each lower form of existence offers to the realization of each higher.

The object of art is to anticipate nature's intent, to penetrate through all individual imperfections to the idea, and to reveal this in its purity. Nature is beautiful only to the eye that reads her thoughts, that which she is striving to express. Flower and tree and mountain and cloud speak a magic language only to the mind

that carries within itself the key by which to interpret the individual symbols. But to genius alone does the idea reveal itself in its depth and its power, inspiring hand and eye and brain in the creation of what stands before us at last as a work of art. Thus the artist impresses upon the rigid marble that beauty of form which nature in a thousand attempts failed to realize; placing his statue over against nature, as if to say, "This is what you were striving to tell." "Yes, it was this," echoes from the mind of the beholder.

As the contemplation of the idea is the birthright of genius, so is its condition the emancipation of the intellect from the will; that is to say, a complete forgetting of self in the object. Every personal desire, all personal interests, all personal conditions must be forgotten when the art spirit takes possession of the soul. To the small, self-engrossed mind, the beautiful does not exist, — neither in nature nor mind nor art; what it requires in objects is *service*, just as its own condition is one of servitude to the selfish will.

But the object of art must be contemplated solely and purely in itself, out of all relations to the beholder and his interests. What *service* will it perform? is a question which in the art world has no place. Thus, where genius sheds its radiance, it is the same whether a sunset is contemplated from the palace or from the prison; for *genius is freedom:* it dwells in a world apart, a world where pain and unhappiness cannot enter; a world severed and far removed from that in which the will to live, with misery in its train, is the reigning power.

It is hardly needful to say that Schopenhauer does not represent the ecstasy of genius as a permanent condition, even to the most privileged. To the *best life* even, those visits of the art spirit are rare and brief.

In the classification of the arts, Schopenhauer does not differ essentially from the despised Hegelian school, excepting in the place he assigns to music. Thus architecture, sculpture, painting, poetry present an ascending scale, in accordance with the nature and scope of the object matter. Architecture embodies the lowest stage of cosmic ideas, the drama the highest. But in the interpretation of the special arts, the Schopenhauer characteristics become prominent.

The omnipresent qualities of crude matter, the rude volitions of the stone, as it were, — gravity, inertia, resistance, the conflict and the balance of primary forces, — these find their expression in architecture.

In the drama we have the highest cosmic phenomenon, humanity in its ethical development. Here the art spirit gives expression to

the deepest and the truest phase of the pessimistic consciousness. The conflict of the will with itself, the strife between the individual will and the universal will, is contemplated in that ultimate phase where it takes on the character of the sublime. The intensity of suffering reaches a point where it ceases to be suffering; pain is lost in greatness, grief in the loftiness of resignation. At the crowning moment there comes a hush, a spirit silence, where pity would seem trivial.

> "To live is not the highest good,"
> (Das Leben ist der Güter hochstes nicht,)
> (Schiller, "Braut von Messina,")

is the voice which comes from out the stillness; and behind it all is a vague sense of Nirvana, with its promise of compensation.

"Just as in music the chord of the seventh demands the dominant chord," says Schopenhauer, "so does tragedy demand an existence other than this, a world other than this." The return to harmony, which the present world refuses, is an imperative need, which at the moment of the tragic catastrophe becomes also a supreme conviction.

For music the hierarchy of the arts has no place, because music is deeper, more comprehensive than all. Music is not a representation of the cosmic ideas; but it is, like the ideas, an immediate manifestation of the cosmic will. A Mozart does not look outward into nature, studying her objects, carefully noting her features, in order to produce her counterpart, a sound picture. He may let nature's life sink deep into his soul, but he does not imitate her. Only artificial music is imitative. The sound world has a reality of its own; it is co-ordinate with the light world, the antitype of the visible cosmos, a revelation of the will in the fulness and richness of its being. Music can therefore be referred to no standard outside of itself; it cannot be placed over against nature for comparison. Its *laws* are its own; its *objects* are its own; it cannot be said to *resemble* any object in nature, but it has a mysterious correspondence with the *all* of nature. And this mysterious correspondence manifests itself not only in special creations, in the symphony or the oratorio, but in the whole framework of the musical art. Harmony, dissonance, rhythm, melody, even *pitch*, all have a counterpart in the visible world.

However, it is not its correspondence with nature about us, but with nature *within* us, which gives to music its deeper, intimate expressiveness. The human will itself, its love and its hate, its pain and its joy, its striving and its repose, all find a response here, transformed into an existence above existence, a life above life, where pain becomes beauty, strife becomes rest.

We are reminded here of a word of our great Beethoven:—

"I have no friend; I must live with myself alone; but I well know that God is nearer to me in my art than to others. Neither have I any fear for my music; it can meet no evil fate. He to whom it makes itself intelligible must become freed from all the wretchedness that others drag about with them." (Bettina.)

CRITICAL ESTIMATE.

You have perceived that in this brief outline of a great philosophic system, I have refrained from criticism, excepting so far as criticism is implied in the manner of statement. In venturing now upon somewhat of a critical estimate, I am well aware that I am liable to commit an intellectual impertinence: only the great can judge the great. Nevertheless, we all judge so far as we think; intellectual independence requires a critical attitude; and therefore, whether right or wrong, I must make the attempt.

I shall examine mainly the psychological aspect of the system; for a cosmology which is confessedly anthropomorphic, making man the measure of the universe, must stand or fall with its psychologic truth. If the explanation of the universe is to be sought in the nature of the human mind, then the first thing needful is an adequate knowledge of the nature of the human mind.

As a student of psychology, Schopenhauer lacks both philosophic rigor and scientific carefulness. With all his deep glances into human nature, a rare intuitive power, great acuteness of observation and independence of interpretation, we find him capricious, extravagant, even fantastic, besides under the influence of a strong subjective bias. A most fatal characteristic is a tendency to disintegrate, —a fixing of distinctions and a neglect of fundamental unities. Distinctions are made positive, —absolute, as it were; unity appears only in negation.

To abolish the old-fashioned conception of a human soul, of mind in its substantial unity, is a disposition which Schopenhauer shares with many brethren of a later scientific school. There is a will, an intellect, a consciousness; there is reason, understanding, sense; but properly speaking, no human soul of which these are the manifestations. This tendency to make war on the time-honored conception of spirit manifests itself fundamentally in that separation of the intellect from the will which is the key-note of the entire system, —and, as it appears to me, also its fundamental error.

Psychologically, this isolation of faculties is utterly untenable.

The recognition of an organic unity of psychic processes is one of the main results of modern psychologic research, from Hegel down to Spencer and Lewes. The simplest mental product is revealed by analysis as involving the co-operation of every power of mind to which psychology has as yet given a name. And those fundamental aspects of the psychic life which we have been wont to call primary powers, — knowing, feeling, willing, — these are so intimately related, so absolutely interdependent in their exercise, that it is impossible to hold them apart, even in abstract analysis. Wherever we imagine to have the one alone, a closer scrutiny reveals all three; wherever we attempt forcibly to isolate one, it eludes our grasp, for in separating we destroy it. *Will severed from intelligence is not will, such as we know it in consciousness.*

Nor can intelligence be emancipated from the will. There is no region of the human intellect from which will and want can be banished; there is no intellectual act of which love and hate are not the impelling motives; beauty and truth are sought with persistent striving; action is the life of the intellect; inertia, passive quiescence, its death. Art and philosophy supply human wants as real as those of the lower self, — a soul hunger which may become as intense as that of the vital structures.

"The emancipation of the intellect from the will" is, in fact, a rhetorical phrase, full of suggestion indeed, but which, translated into ordinary language, means simply the action of the intellect as independent of lower selfish motives.

(Let it be pointed out here that Schopenhauer's "will" includes the emotional nature, a fact which ought to have been set forth more fully elsewhere.)

The "creation" of the intellect by the will, psychologically considered, is another instance of the seductions of a rhetorical genius. It may be recognized as simply an extravagant mode of stating the fact of a close relationship between intellectual and emotional phenomena; a relation which may take the causal aspect, when we consider the sense of need or the love of truth as the basis of intellectual effort.

Logically and metaphysically, the creation of the intellect by the will is a doctrine absolutely untenable. The rational intellect proving itself the product of an irrational will is a logical anomaly, a begging of the question more to be condemned than that of simple materialism, because trespassing on deeper philosophic ground. Metaphysically, it is an ignoring of that prime philosophic necessity which demands a recognition of the ultimate identity of potentiality and actuality.

Returning to the psychological aspect, it will readily be admitted that Schopenhauer's psychology can hardly be considered a satisfactory basis for a philosophic system. His "cosmic will" is not the analogue of the human will; it is a hypothetical principle, as incomprehensible, as unknowable as matter and force.

If Schopenhauer's speculative principle is legitimate, — that is to say, if it is legitimate to assume a fundamental analogy between nature and mind, between the world without and the world within, — then the same speculative method which constrains us to view the world as will would, on a truer psychologic basis, constrains us to view it also as the expression of intelligence. This is consequently the position which Hartmann, the historic successor of Schopenhauer, actually takes; his "cosmic principle," though viewed as unconscious, is will *and* intelligence.

CRITICAL ESTIMATE (PESSIMISM).

It must be admitted that Schopenhauer's pessimism is deeply rooted in his system. Both the extravagance and the truth of his psychology and metaphysics stand out in bold relief in this pessimistic scheme. The speculative validity of the scheme is therefore of the same character with that of the entire system; the same must be said of its psychological basis.

Empirically, it is impossible to substantiate either the truth or the falsehood of pessimism. *Does* evil actually predominate over the good? *Is* there more pain than happiness in the world? These are questions suitable for debating societies rather than for scientific research. The range and complexity, the indefinite character of the data preclude the possibility even of an accurate estimate. There is no standard of measurement for a feeling. Thus Hartmann's attempt to establish a scientific basis for pessimism is probably as loose and flimsy a fabric as ever disgraced the philosophic genius of Germany.

In Schopenhauer's plea the scientific claim is less prominent; its character is pre-eminently poetic. It comes with a pathos and a power, a lofty impressiveness, which for the time being overwhelm the student and silence the objector.

A marked and most significant feature is the strength of the ethical element, commanding the admission of principles which in their development must lead pessimism to destroy itself. One is the recognition that *happiness is not the chief end of existence;* another, that *pain is not essentially and necessarily an evil.*

The higher ethical life, with Schopenhauer, is *more* than a search

for happiness; the most contemptible and the most *barren* of lives is that which is spent in the pursuit of pleasure. It is only when self is forgotten in some high object that life reveals its beauty and its worth.

The ennobling nature of pain is vividly set forth by Schopenhauer; there seems to be a recognition of what the poet expresses: —

> "Enough to know, around us not in vain
> The troubled tides of being darkly press;
> Grief, care, want, hope deferred, love's ache and strain,
> The passions' stress:
> So grows the soul immortal, wrought through pain
> Into all comeliness." (Art Life.)

But Schopenhauer's intense pessimistic consciousness, his sympathetic nature overshadowed by a world's suffering, his peculiar theory of the human will, are at war with a healthy ethical sense. Hence the negative character of his ethics, the exalting of the passive virtue of resignation and the inertia of asceticism. All active striving being looked upon as selfish and wicked; the will to live, the desire for individual existence being looked upon as the essential evil of the universe, — all ethical development lies in the direction of self-renunciation, the negation of individual existence. All that mankind holds high and dear, ethically, is with Schopenhauer only a negation, only a step forward toward the annihilation of a world which had better not exist.

This whole wide universe, in fact, contains within itself no possibility of salvation, no striving toward the better, no principle of progress, no evolution of the spirit; not one step forward does it move toward the realization of an inherent ideal. As with the individual, so with the world: the possibility for the better does not lie within it, but beyond it; its redemption is its annihilation.

A heroic consistency cannot be denied to this; with giant fearlessness, Schopenhauer is true to his postulate to the last.

But after all, the life of the spirit in its beauty and its power does not reveal itself to the pessimist. It is not without significance that Schopenhauer banishes Psyche from his system, although it is easy to see that his strong Germanic spirit feels her presence and would fain recognize her in her disguise. How it is that as we ascend step by step to that higher life which is possible to the human soul, the facts and laws of the lower nature lose their significance, are transformed and reversed, — of this there is little recognition in this pessimistic scheme; how in a purely intellectual and spiritual sense the struggle for existence loses its poisonous weapons, loses the character

of remorseless strife, since it is no longer a struggle for the possession of matter, where creation must needs rest on destruction.

Intellectually, my gain is *not* another's loss. Genius supplies the wants of thousands in supplying its own. Those Athenian sculptors who two thousand years ago wrought out their spirit cravings in the inert marble, — these still across all the centuries awaken and appease the hunger for the beautiful. All ideal creations, all spiritual treasures, have this character of inexhaustible wealth; all works of genius have this in common, that they are blessings both to receiver and giver. Truth and beauty, like the seven small loaves and seven small fishes, may satisfy the hunger of the multitude, and still become not less but *more*, like the basketfuls that were left after that repast by the Sea of Galilee.

And this wealth of the spirit, this all-compensating power, manifests itself all about us in a thousand ways, if we only have the eyes of the spirit to see. Kohl, in his account of Lake Superior Indians, tells us of an Ojibway chief, who was famous among the tribes for his knowledge and wisdom. During his childhood the great chief had suffered much from neglect, had been left to starve and freeze in a wretched state; yet he was wont to say afterward that he did not mind it, for with all the hunger and cold and loneliness, he had always had — beautiful dreams.

Pessimism can maintain itself only by disregarding the spiritual aspect of life, — its compensations, its wealth, its beauty, its power, its hope. Just so far as it is conscious of these, it is at war with itself, just as it is at war with the deeper poetic sense of mankind. Poets and women will never adopt Schopenhauer's dismal creed. Thus the great philosopher is accused of contempt for womankind, by way of revenging himself upon the sex that will not believe in pessimism.

We have seen that Schopenhauer's æsthetics are built on the Platonic doctrine of ideas. The value of that doctrine, and its difficulties from a scientific point of view, I will not discuss here; that it fits ill into the system of Schopenhauer is generally recognized. It is in fact the poetic *need* of Schopenhauer, declaring itself at war with his intellectual system. Its adoption into the *ethical* scheme would have transformed the entire system. In the recognition that just as the beautiful in nature is the adequate realization of an idea, so the beautiful in the mind of man — the good — is to be conceived, not as a negation of the individual, but as its most perfect realization, — in this recognition pessimism would have reached the transformation which Schopenhauer now, in his loftiest moods, suggests.

Just as to the human soul, pain may become an ennobling, redeeming power; just as in art, pain is transformed into beauty: so would pessimism have been lost in a larger cosmic harmony; redemption would be recognized, not as destruction but as evolution.

There remains now a brief inquiry into Schopenhauer's relation to recent German thought. What place does he hold? To what extent does he govern? What is the secret of his sway? There can be no question that during the last twenty-five years Schopenhauer's influence has been very great. The extensive Schopenhauer literature which has sprung up bears witness to this. The great pessimist seems to have opened a new philosophic era in this, that he has made his works accessible to the German mind at large, awakening an interest and obtaining a foothold outside of that aristocracy of thought which has its centres at the universities. His rhetorical qualities are such that according to Frauenstädt's remark of questionable felicity, Schopenhauer's works are read even by soldiers and cultivated women.

It cannot be claimed, however, that the secret of the philosopher's success is his literary style alone. His peculiar blending of idealistic philosophizing with prevailing scientific doctrines is probably not the smallest element of his power. That crude materialism is fast descending from the high places, degenerating, according to Schopenhauer's winged phrase, to a philosophy of apothecary apprentices, and seeking refuge in the halls of the communists, — this in Germany is an unmistakable fact, a development in which the great pessimist has undoubtedly had a share.

Those who ascribe Schopenhauer's success mainly to his falling in with the pessimistic current of the time are probably not far from the truth. The statement must, however, be taken with some modifications and allowances. The followers of Schopenhauer in Germany are by no means confined to those pessimistically inclined. Even Frauenstädt, who has made the interpretation and exposition of our philosopher's thought a life work, does not accept the pessimistic view.

That the pessimistic currents of nineteenth-century thinking are deep and strong, flowing in channels diverse, and accompanied with growing degrees of consciousness, cannot be denied. Philosophic Germany must needs give a philosophic expression to a consciousness which is after all but the natural residuum of a Christian cosmology robbed of its heaven, — the transcendental beyond. Take out the hope of heaven, and Christian hymns and sermons without end tell us the story of a world-despairing pessimism. That the pes-

simistic consciousness of Germany has found so noble and lofty an expression as Schopenhauer has given it is, after all, creditable to the German genius. Only creed-bound bigotry could find a pernicious tendency in Schopenhauer's ethics.

A closer and more comprehensive study of nineteenth-century pessimism as a philosophic movement in Germany, I reserve for a future occasion.

MORAL INSTRUCTION IN PUBLIC SCHOOLS.

THREE things appear to be needed in order that the subject of instruction in morals may receive proper attention: —

I. A more vigorous and intelligent public sentiment.

There is no question but that the general sentiment of the public is thoroughly in favor of education, but the idea of education is too narrow in its scope and limited in its results. The true object of education is to draw out and develop the whole nature of man. This nature is threefold: the physical, the intellectual, and the moral. Complete education, therefore, is impossible until there is a symmetrical development of the three in harmony with each other. Undue attention to the first may produce a fine physique, but leave the man a dunce and a villain. Undue culture of the intellect may produce a philosopher, but leave him an invalid physically and a knave morally. There is danger that the culture of the moral nature only will perhaps make a good man, but so good as to be good for nothing; good enough to die, but not good enough to live. It is only when each element receives its proper share of attention in its relation to others that we can have true education. No argument is needed to show that the public sentiment is not up to this standard. Until recently, education has been held to embrace mental culture almost solely. Of late the physical nature has received, perhaps, its full share of attention. The demands of the moral nature, however, still fail to receive proper recognition. We have reached the old classic standard, a sound mind in a sound body; but we are far short of the Christian position, which would add to this moral character. We are not only unphilosophical in this, but the verdict of history is against us. Classic culture could not save ancient society, still less will it suffice for the more intense and complicated life of to-day. The verdict of history is equally clear, that among the upbuilding and preserving forces of human society, moral principle has always been foremost.

Our position is also emphasized by recent painful experiences in commercial life. There has been no lack of those who were intellectually qualified to fill important positions, but a painful lack of those who could be trusted in them. It has been said that the salary of a young man on State Street would be doubled if there could be absolute assurance of his perfect honesty. A prominent Boston merchant writes, "There are many business men who are asking more and more about the character of those in their employ"; and he

adds this testimony: "Twenty years ago there was a large house on Franklin Street enormously rich, but the firm were profane, played cards, etc.; all the young men brought up in those surroundings have proved miserable failures. There was another business school of the exact opposite kind; and all those who had their training under those influences have succeeded, and are to-day among our best merchants." There can be no question, therefore, that the demand of the age is emphatically for instruction in morals. We lay it upon the ministry, the churches, and all good people to aid in the creation of healthy and vigorous public sentiment on the subject, so that the phrase "good moral character" shall no longer mean, as now, simply the absence of known gross or criminal offence.

II. More law; more properly, perhaps, different law is needed.

What is the relation of law to education? Plainly, it is so to regulate it that the interests of the state shall best be conserved. It is an advantage to the state that its citizens should possess sound bodies; it is therefore the right and duty of the state to provide so far as possible, by appropriate legislation, for the public health. It is also an advantage to the state that its citizens should be intelligent; it is therefore the right and duty of the state to promote intelligence so far as it can be done by law. It is even more to the advantage of the state that its citizens should be well behaved. Herein is the peculiar province of law: it is almost wholly concerned in regulating the conduct of peoples. But this is also the sphere of morals.

If, then, the law has any relation to education, it is first and foremost to the department of morals. Mr. Mill says, "Government is to increase to the utmost the pleasures, and diminish to the utmost the pains, which men derive from each other." Its double province, therefore, is to restrain the ill behaved and encourage the well behaved. This latter relation it sustains to education. Horace Mann once said, "All the power of the mightiest nation can never prevent bad men from doing wrong. The only way to diminish the amount of wrong in the world is to diminish the number of bad men." President Picard, of Iowa State University, says, "A citizen kept from becoming a bad man is worth more than a citizen reformed"; and we venture to add that it is much easier to prevent one from becoming bad, than to reform one after he has become so.

It would seem to be a just remark that if the state would do more for the encouragement of virtue, it would have much less to do in the repression and punishment of vice. This much at least is clear; the first duty of law in its relation to education is to promote

the moral culture of those who are to become citizens. This, however, it does not do at present.

The laws recognize the importance of this subject, but in a very general way. They need to be more specific. They were sufficient for the time when they were enacted: our fathers did not need enforced physical culture; the stern realities of their lives left no room for gymnastics. So of morals: laws which advised or even permitted the teaching of them were quite enough; they would have taught them without law, — nay, more, in defiance of law. It was that which made them what they were. But all this is changed. The reaction from their extreme position has carried us to an opposite extreme. And although the law enjoins teachers to impress upon those committed to their care the general principles of morality, it does not, except in four normal schools, order them to do it specifically. The very natural consequence is that they do not do it. The cause of this is clearly given by Mr. Cogswell, the efficient superintendent of schools in Cambridge: "Success in teaching has been measured largely, if not wholly, by results of intellectual training; not because moral training has been deemed of less importance, but because the results could not be made apparent. Percentages of correct answers, while they may not show the best intellectual training, do to some extent indicate the ability of the teacher; but as growth of character cannot be represented on paper, this element has not been sufficiently considered in estimating the value of teachers." Let the law be made as specific in regard to morals as it is in regard to arithmetic and geography, and this objection would no longer exist. If the law has the right to order the teaching of the latter, much more has it the right to order the teaching of the former. The only change required here is that the teaching of morals shall be mandatory, the same as the common branches of knowledge. This change should be demanded until it is secured.

III. Teachers of a higher character are needed.

The law requires that teachers of high schools shall be competent to give instruction in moral science. But for one to be really competent to do this, he must be himself moral. An immoral man may teach mathematics, it may be, but he cannot effectively teach morals. Ex-Governor Rice once said, "If our schools are to be the safeguards of our Republic, as we fondly trust, our teachers must feel that upon them rests the responsibility of so training the youth committed to their care, that they shall go forth from the schools imbued with the principles of sound morality."

We would by no means underestimate the quality of our teachers:

many of them leave nothing to be desired; but on the other hand, many leave much to be desired. They possess sufficient information, it may be, but do not bring heart and soul to the work. They simply serve so many hours for so much money. And by what right do we demand more? The highest right.

If we put a choice block of marble into the hands of the sculptor, we have a right to something more than so many days' work of a stone-mason; we have a right to his genius. He must put the beautiful shape born in his artist's soul into the stone, and give us that, before he has fulfilled his contract. And so when we put into the hands of the teacher material a thousand times more precious than ever slept in the mountains of Italy, we have a right to demand that he shall have within his own soul a character which will be a fit model for his work. If it be objected that the many cannot attain to this standard, then let them saw wood, shovel coal, or be politicians, but let them not dare demand the privilege of stamping their unworthy selves upon the plastic mind of youth! It has been recently reported that some of the teachers in a city, not in Massachusetts, go to their work in a state of intoxication. This is doubtless an extreme case, but it shows the possibility of the danger.

Too great watchfulness cannot be exercised here. There is hardly a moral qualification demanded of the preacher which should not likewise be demanded of the teacher. Their work is almost equally sacred. We should commence here with the appointing power, and demand of our committees that the first inquiry concerning every candidate shall be as to his character: Is his heart pure and warm?

IV. A text-book is needed.

When the three foregoing points shall have received attention, manuals will be needed for reference and general purposes of instruction. We shall not take time here to discuss this matter largely, because when such books are needed they will be furnished under the ordinary laws of competition. It will be of little service to produce them until there is sufficient demand to insure their use. The "imprimatur" of a society or of any number of societies will not create such a demand or insure such a use. Let there be a public sentiment that will demand it; let there be laws that will order it; let there be teachers who are really competent, — and the books will be forthcoming. There is no more difficulty in preparing good text-books upon this subject than upon any other. Religious prejudices should be avoided, and they easily can be. The work should embrace only the simple, fundamental, ultimate principles of moral duties which are demonstrable by reason and experience; *e. g.*, the laws of our physi-

cal, social, and civil life, and the duties to ourselves, to each other, and to the state, growing out of them. This could easily be made interesting and profitable. A healthy and vigorous public sentiment upon this subject is not only the first thing needed, but that which when secured will cause the other things which we have mentioned to follow of themselves. Given such a sentiment, and the desired laws, teachers, and books will follow. Just here, then, is the duty of the hour in this regard. Let the pulpit inculcate it; let the press agitate it; let the platform discuss it; let the ballot-box demand it, — and the work is done. The importance of the matter cannot well be exaggerated. It is one of the nerve centres of our national, social, and individual life. Let it be touched with the finger of truth, and the remotest extremities will be electrified with life-giving power.

The times are not only ripe for reform in this regard, but the need is measureless. The conflicting elements of our national life are growing every day more numerous and dangerous, while from every foreign soil are being gathered elements of discord more numerous and dire than ever entered into the witches' caldron in Macbeth:—

> "For a charm of powerful trouble,
> Like a hell-broth boil and bubble."

The only solvents for such a seething mass are truth and virtue. Why should there not be, side by side with the glorious awakening of interest in home missions, a corresponding one in moral culture?

If the diverse currents which are gathering in our political atmosphere in the West are permitted to come together, there will be cyclones which will rend our institutions to fragments. The only powers which can keep them apart, and turn them into channels where their force can be utilized, are moral and religious; and the moral should be a powerful auxiliary to the religious.

Of all the work of education, this is not only of the most intrinsic importance, the most imperiously demanded by the exigencies of the times, but it is also the most lasting. Why cultivate most that which is temporal and perishable, and neglect that which is imperishable and immortal? Mr. Ruskin says, "Michael Angelo was once commanded by Pietro di Medici to mould a statue out of snow, and he obeyed the command." Thus his sublime genius was wasted upon what melted under the first sun, and all future ages were defrauded. Are we not doing even worse when we permit our teachers to mould statues of snow instead of those more enduring than marble? Was not that other artist wiser, who, when asked why so careful with his work, replied, "I am painting for immortality"? More than in the case of any other artist, this should be the aim of the teacher.

TOPICAL *v.* INTERNATIONAL BIBLE STUDY.

BY JAMES E. VOSE, A. M.

"Is our present International System of study in accord with the needs of our Sunday schools, and the correct principles of Biblical education?"

I. In answering this question emphatically in the negative, there are certain excellent features in our present system to which due credit ought to be given.

1. System is better than unsystem in anything, and this has the high honor of being the first really methodical plan of Bible study ever attempted on any extensive scale.

2. This marked advantage has led to a very universal adoption, so that wherever one may be travelling he knows what the subject of the Sunday-school lesson is to be, and is able to look it up in whatever papers may be at hand, and to enter a class with some intelligent enjoyment of this important service.

3. The great success of the plan has produced a flood of "helps," so called, — most of them utterly worthless, to be sure, but a few of great value, and all in such cheap and popular form that no one can have any excuse on that score.

4. By stimulating combined effort of teachers and others, enthusiasm has been wrought up, till it may be doubted whether there was ever in our churches so much interest in Bible study as at present.

5. A very important count in favor of the system is the great impetus given to the study of Biblical history, geography, antiquities, etc., so absolutely essential to any proper interpretation of the sacred narrative.

II. In all these and other particulars, the International System has done a very great and beneficent work, and all honor is due to those earnest workers who have brought it to this remarkable success. Still the question remains whether, having arrived at its present height, there is not one step farther which our Sunday-school leaders ought to take to bring it squarely abreast with the spirit of the times. To answer this, some of the shortcomings of the system need to be very plainly noted.

1. In the first place, the tendency is to magnify the machinery of the work entirely beyond the work itself. A little text of Scripture is printed in the smallest type in some corner, and then every conceivable somersault is turned from it that leaflets, pictures, lesson-

monthlies, blackboard-exercises, and the rest, can be tortured to display; and programmes, outlines, golden texts, questions, illustrations, side-lights, Bible-readings, reviews, concerts, are paraded and paraded, till the poor little bit of Scripture is as utterly lost as the Babes in the Wood. It seems to be entirely forgotten that no two schools or classes need exactly the same programme or work, and that fastening all down to one cast-iron routine is an utter absurdity. Imagine all the public schools of the United States grinding out, say, arithmetic in this style! But our worthy lesson-mongers seem to take it for granted that the rest of us are fools, and must have every detail cut and dried for us or we can do nothing. I am confident that in this particular, schools are successful just in proportion as they do their own needed work in their own independent way.

2. In close connection with the foregoing is the vast amount of charlatanry which our present system induces. Glib-tongued men, no doubt with a good purpose, possibly with a good idea, come together in conventions and parade their little hobbies to the astonishment of the multitude. Then everybody rushes off to try the same thing at home, only to make a farce of it and a failure, — or worse yet, to succeed; for there is no use in forgetting, after all, that "there is no royal road to geometry," and that the only way to learn, whether geometry or Bible or anything else, is by downright painstaking study. It is entirely safe to say that in spite of much that is good, nine tenths of all our "convention work," "methods," "class-drills," "blackboard illustrations," etc., etc., is the merest clap-trap, and of no educational value whatever. It serves to create a furor, but is entirely at variance with all true ideas of study, and gives neither religion nor knowledge of the Bible. And it may be seriously questioned if, with all our vaunted progress, there is to-day in our churches anything like the real, sound, healthy Biblical knowledge that there was in those of a generation or two ago.

3. So, too, in our so-called "helps": take out the one hundredth that is really good and helpful, and I doubt if there can anywhere be found such a mass of goodish, puerile, trivial mockery of study or help to study as the rest of it is. For example, here is a specimen from one of the most extensively used question-books in the country. I opened it at random, and fell upon the lesson for Oct. 2. Here are the first two verses: —

> 25. And all the women that were wise-hearted did spin with their hands, and brought tha which they had spun, both of blue, and of purple, and of scarlet, and of fine linen.
>
> 26. And all the women whose heart stirred them up in wisdom spun goat's hair. — Ex. xxxv. 25, 26.

Now, it would almost seem as if a single question would bring out about all there is in that: What did the women do? Why, they spun, — blue, and purple, and scarlet, and linen, and goat's hair. It would be a pretty young or a pretty stupid child that would not answer essentially that. And then it would almost seem as if a little study on the colors and the materials would nearly cover that passage. That is, three particulars are about all an ordinary mind would observe. But alas for our feebleness, when the genius of the question-monger gets to work! Here is the way he does it:—

> What did the wise-hearted women do? Why were they called "wise-hearted"? What did they spin? How many colors? What was the material? What fine material did they spin? Other women spun — what else? What was goat's hair used for?

Now, I protest that that is putting a premium on stupidity. Something of the sort might do for very small children, but the book in question is intended for all ages. It is filled page after page with the same utter twaddle as that, and hundreds and hundreds of schools are going through it every Sunday and calling it Bible study. Forsooth! Do you wonder why so many boys and girls, as soon as they can think, leave the Sunday school?

Another serious matter about the "helps" is their ephemeral nature. A few have cost labor, and are really of value. But on the present plan of going skip-hop through a book, there is no likelihood that we shall ever skip-hop over the same passages again, and so the whole becomes in a measure valueless. What are your "Lesson Notes" of last year or five years ago worth to you? Hundreds of thousands of dollars are thus annually thrown away, and any reasonable system should obviate the difficulty entirely.

4. Doctrinal teaching is another important thing that we are losing sight of. Now, there is nothing more despicable than sectarianism, yet nothing more honorable than a good sturdy belief. Only one thing is more pitiful than to have no religious belief, and that is not to know what we believe; and it can hardly be denied that a large portion of our people, at least of the younger portion, do not know what they believe. A few might be able to state some things which they have heard they ought to believe; but a very small number indeed would be able to state that they do or do not thus believe, or to give any fair reason pro or con. Why should they? These things are not taught anywhere. Doctrines, opinions, are sneered at nowadays, and called dogma; and liberalism is heralded as the thing. We are to forget all our beliefs in the great unity of the churches. I object. We are to be brothers and yet hold our

opinions. To cease to think on these great questions is to cease to think entirely. A man without decided opinions and the ability to formulate them is a weakling, and of no sort of use anywhere. Just this sort of weaklings we are trying to educate now in our churches and Sunday schools, and we are reaping the fruits of our teaching in the general weakening of society on all great moral and philosophical questions. Sneer at it as you will, it is the great fact of history that doctrine, — dogma, if you please, — religious, philosophical, political, has been the great formative power in our civilization. To ignore this as we do is one of the most serious evils of our teaching. If we have any convictions that are worth anything, they are worth transmitting to our children. If we have no convictions, — well, we should do just as we are doing.

5. A far more serious objection to our present Sunday-school work is its utter obliviousness to the nineteenth century. To none better than to our lesson-makers could the stinging words of our Saviour be applied: "Ye can discern the face of the sky; but can ye not discern the signs of the times?" (Matt. xvi. 3.) The times are critical. Everything is subjected to severest scrutiny. Hebrew, and Greek, and ancient history, and science are new things under the light of modern learning; and these, in turn, have revolutionized much of our accepted Biblical interpretation. Matthew Henry and Paley were good a century ago. The trouble is, we continue to parade the same old weapons when the whole system of modern warfare has changed. The great questions that men ponder now are on a very different line: What of evolution? Are the foundations of our religion mere myths like the old mythologies? Does science agree with Genesis or the six-days interpretation? Was the Deluge local? Were there pre-Adamites? Did Moses write the Pentateuch? if so, did he get the Ten Commandments on Sinai, or learn them from the "wisdom of the Egyptians"? Did we live before this life, and shall we live after it? Is our religion merely a human growth from mythology up through priestcraft and Christianity to philosophy, which shall be the great millennium of the race? These and a thousand similar questions are the great subjects of the world's thought to-day, and it is astounding with what skill our International teachers have succeeded in dodging them at every point. Our religious leaders seem to fail to realize how thoroughly society is permeated with painful thought and anxious doubt on these great matters. I find it everywhere; our young people are full of it; because of it thousands of honest Christians are harassed and perplexed, and thousands of others are kept from religion and float off

into the wilderness of unbelief. It is one crying evil of our religious teaching that these things are not made more familiar; and when I see, as I do many times every year, what satisfaction and often peace some simple explanation of the sun's standing still, or of the Deluge, or of the great miracles of Egypt, or of God's hardening Pharaoh's heart, affords to those who have been stumbling or sceptical over them, I am almost indignant that the church is so slack in its duty in this matter. Ignore them or not, these are the great living questions of the day; they are the questions discussed in all our schools of philosophy, in all our leading periodicals, in cultivated circles, among scoffing infidels; our youth are to meet them at every hand, to fall before them unless we throw aside our exploded methods, and come up to the study of the *whole Word of God* under the full light which the highest modern learning affords. Our churches seem afraid of this, and shrink back as though learning and science were irreligious. As well the growing plant shrink back from the sunlight! As though God and the Bible were not with, though immeasurably beyond, even the highest of all our science and learning!

6. But serious as are all these minor considerations, the crowning objection to the system is the system itself. It is the very perfection of the systematized lack of system. We take a verse here and a passage there, and the result is just what we should expect, — no definite knowledge of anything anywhere. When our young people study the life of Cæsar or of Washington, we take pains that they do it in an orderly way, and are not satisfied unless they really know that life with some degree of exactness in the view of surrounding events. Is the life of Abraham, or Paul, or Christ, of any less importance, or worthy of less careful knowledge? But you reply that it is the moral aspects of Bible history that we are after. True, but what real appreciation of the moral force of an event can we get apart from the life or history of which it was a factor? We are just now celebrating the siege of Yorktown; but how slight a view one obtains of it who studies that campaign alone. How little, a century later, could even so striking an event as the death of President Garfield be estimated, without our whole contemporary history, and the whole previous life of the man, — yes, and the lives of the mother and the wife, and the influence of schoolmaster Bates, and Almeda Booth, and Mark Hopkins, that contributed to make that death what otherwise it never could have been. No moral event stands out isolated and alone; the Bible nowhere commits the folly of any such teaching; and it is astonishing that for centuries our study of the

Bible has been of this narrow and unnatural sort. It is especially surprising that our International advocates, with all their progressive ideas, are so relentless in opposition to every attempt to bring the work up just one step further to the really true and effective standard.

This point is of fundamental importance, and cannot be too strongly urged. This hop-skip-and-jump method, what would be its results in our secular schools? Try it in history, for instance: a lesson on our Civil War, another on Cæsar, another on the French Revolution, the next on the Puritans, the next on Homer and Milton, and what of history would the student learn? He would have a few isolated facts, to be sure; but what of that great chain of causes and effects that we call history? what of those deeper and only true lessons that the broad and connected view affords? And are the Word and works of God in the world of less importance than the word and works of man? Detached portions, a verse here and a verse there, are good, undoubtedly, and often bring great profit to devout meditation; but how vastly is the force increased when the same are taken in connection with all the added interest of what precedes and what follows, and of all the surrounding circumstance and history. Take for example, first alone, and then in their connection, those incomparable words, *Jesus wept.* Take any scattered incidents in the life of Christ, beautiful and impressive as they are, and how puny they are compared with the life itself; and yet with all our study, how many of us have any clear view of that life as a whole? Or take Genesis, Exodus, Mark, and the rest: how greatly the detached portions are magnified when considered with the book as a whole; and the book itself, what more impressive meaning it always receives with the Scripture of which it forms a part. Religion, the Bible, is the most remarkable fact, the one single stupendous fact, in history; and shall we hash it up and drivel it out in little tractlets as the penny rhymester peddles his doggerel on the streets? The most invincible weapon in behalf of the Bible is the Bible itself, and the most potent against either impenitence or the very strongholds of the infidelity and materialism of the times; but let it not be handled like the swift little bullet that falls flattened before the rampart, but like the slow, ponderous mass of iron with its tremendous momentum that shakes the whole structure to its foundations.

III. From considerations like the foregoing, it becomes the plain duty of the churches to inaugurate a new system of Sunday-school work. Extensive inquiry assures me that this conviction is growing very widespread, especially among the clergy and the more thoughtful of the laity. There is hardly a single practical educator anywhere who is not outspoken and emphatic in this opinion.

The pressing question is, what to do. With the experience of the past, there need be no hesitation whatever on that point. Our International leaders have been gradually forced into a better work; the programme on Exodus which we are now studying is the best they have ever made, and that on Mark for next year is more promising still. But after all, here is this piecemeal work, this patchwork theory, — nothing can ever drive that absurdity out of their heads. Then, with all due deference, the Book of Mark, or of Matthew, or of Job, is not the best thing for a whole school, especially the children. What we want first, after the infant Bible-stories, is a year or two years on the *life of Christ*, drawn from all the four Gospels, — not a mere patchwork, but the whole life in its unity, precisely as we shall teach in our schools the lives of Garfield, Lincoln, and Washington. This for a basis for every child and every man and woman, on which to build their life study and their life work. When this is accomplished, whether in one year or three, the Book of Acts and the Old Testament history may be studied in the same thorough way; and after six or seven years, when those who have gone over the whole are ready to graduate, so to speak, — up in the Senior Class, — then, and not till then, are they equal to the study of the Gospels singly, and of the Epistles, Revelations, and the Old Testament poetry and prophets. These last are severe work, — not milk for babes, but meat for strong men, — and require critical study, and all the discipline and spiritual insight that only mature years and large Biblical knowledge can afford.

Such a work should be graduated, of course; made simpler for the children, and more comprehensive for adults. A little doctrinal work should be methodically introduced all along the line; not much, but enough to ballast our churches. There should be, whenever good occasion offers, especially by the superintendent and the minister, brief, pointed discussions of the Scripture teaching on the living philosophical questions of the day, and of the *hard places* over which so many stumble and are troubled. There should also be somewhere — say after Acts have been studied — a short course of six months on church history; it could not fail to be of great interest and value. Then, after a full course of, say ten years of this work, let not all the older students be drawn back through the same thing again, — not that it would not be valuable: reviews are always valuable, — but to those who wish give post-graduate courses, so to speak; special courses, in which classes of adults in the churches shall take up more carefully particular topics in which they have become interested, as Mark's view of Christ, John's view, the Exodus, the poetry

of the Bible, Scripture doctrine of immortality, evidences of Christianity, authenticity of the Bible, and the like.

I am fully confident that such a grand work as this is not at all beyond the reach of the churches. It will not require a great array of institutes to prepare teachers. Ten thousand public teachers all over our country, by downright hard study, have fitted themselves for their positions; ten thousand, a hundred thousand Christian teachers can do the same in their work. This progressive, intel lectual work will hold our youth who now slip away from us. A great advantage will be that all help needed can be gained from regular commentaries and other standard works, which will grow all the more valuable after once using, and will ever after be a constant reference. To teach our people to use such helps, instead of the pitiful stuff which they do study, would of itself be an infinite gain.

For the main part of this course, the International idea ought to be kept up, so that in our general helps, teachers' meetings, travels, etc., we may have the advantages of the same lesson everywhere. But at the outset this will be impossible, for our International men are immovable from their present methods, and have always scouted the topical plan. Not only are they perfectly sincere in this, but "their craft is in danger"; the flood of ephemeral helps which they print would have to give place to a more substantial literature. Any work of the sort must have a small beginning, and make its way slowly on its own merits. That a properly constructed scheme of this character would be successful and slowly supplant the present, there can be no doubt.

The present is an eminently favorable time for inaugurating this advance. In the first place, there is this extensive disaffection with our present methods.* Again, the tenor of the criticism seems almost unanimously in favor of some comprehensive and topical system.

* Since the foregoing was written, the writer has had the satisfaction of reading very similar views presented by Rev. George M. Boynton before the Congregational Sunday-School Union of Massachusetts.

The present method, while it spurs to study and scatters it over the whole Bible, is yet utterly unscientific, and it is not adapted to lead to "a thorough knowledge of the Word of God." Its method is not that by which any other study is successfully pursued. It lacks entirely the element of progressive advancement, except as it advances through or over the pages of the two Testaments.

We need, in the study of that library of divine truth which we call the Bible, something of the method which in the study of all other branches of learning is found to be indispensable to real progress. *We need a graded system of progressive instruction* in the Sunday school as much as we need it in the day school.

Mr. Boynton's scheme embraces the Bible *stories*, *biography*, and *history*; the *Bible itself* as to its structure, history, etc.; *Christian morals*; and *doctrinal instruction*.

More important than all, the International study for the year is to be "Mark's Gospel"; all we have to do is to make it the *Life of Christ*, and the change is accomplished. Let some denominational publishing society, or even some conference, synod, or association, appoint a competent committee to arrange that history topically in a one or two years' course, drawn from all four Gospels, and issue it in about three grades; and if reasonably well done, there can be no question but that it will immediately go into extensive use. Once before the public, the pre-eminent superiority of the plan will make its universal adoption only a question of time. Finally, no matter what the opposition or obstacles, this is one of the fixed facts of the immediate future; for what *ought to be* when the times are ripe, Providence invariably finds speedy means to accomplish. No more important or urgent work now presses upon our churches. Who shall have the honor and burden of the great advance?

ORAL TEACHING.

BY EDWARD A. H. ALLEN.

No maxim of education is more important, and yet is more frequently lost sight of, than that every child requires special training adapted to his individual needs. The best method for one may utterly fail with another, or with the same child at another time. Age, sex, temperament, bodily and mental condition, the size and constitution of the class, the weather, the time of the day even, and season of the year, — these are illustrations of what will determine the successful method for the case in hand.

But the charge is often and seriously made, that, while our schools have become more systematized, the instruction in them has become more mechanical, the pupils being trained to read alike, speak alike, write alike, and, losing individuality of character, even to think alike. A result so deplorable as this cannot, of course, be apprehended in a free country and among intelligent people; but order and uniformity are so deceptive in their attractiveness that we need to be reminded of our duty to recognize the individuality of every child, not only as his sacred right, but as an essential condition of that excellence which consists in the harmony of different qualities, both good though apparently incompatible.

Now, this adaptation to individual needs can in most cases be better secured by *oral teaching* than by any other means. All good teaching, indeed, is largely oral; and all great teachers, from Socrates to Agassiz, have been famous, either for the success with which, through the oral method, they have instructed their pupils, or for the skill with which, through the same method, they have drawn out and vitalized their intelligence. In but few schools is the so-called teacher content merely to hear lessons; so that to advocate oral teaching will in no quarter meet with opposition.

By oral teaching will be here understood that method by which the first presentation of the subject studied is, in both form and substance, through the lips of the teacher; the first impression received through the ear of the learner. The process may be and should be mutual; and experiment and other illustration may aid. But the main characteristic of oral teaching, and which gives it especial value, is the fact that *before* the study of the subject, either from books or without books, the learner has his mind directed and at least an outline of the lesson communicated by the teacher.

The usual order is the reverse of this. The lesson has been assigned from the text-book. The child reads it or studies it with various degrees of intelligence; but when the matter is difficult or the style obscure, he is naturally led to commit the words to memory, and its true value is seen only when made clear by the teacher at the recitation. Meanwhile, wrong impressions have been formed, which an extra and quite unnecessary amount of brain-work is required afterwards to displace. This is the text-book method.

Adopting, then, the definition of oral teaching given above, let us consider its claims to our attention.

First, and most important of all, oral instruction can adapt itself immediately to the needs of the pupil. A question arising from some difficulty; a look of ignorance, doubt, or perhaps of distrust; and the convincing proof or illustration, — use can best be made of all these when need is most felt. At the very moment when the child's mind is conscious of this ignorance or doubt or distrust, the proper remedy can be applied. Not that in every case the doubt will be at once resolved or the difficulty removed: the skilful instructor will lead his pupil to see the source of the trouble, and thus to escape from it himself; or even, perhaps, to devise and extend illustrations to make the path clearer to others.

It is not so, and cannot be so, in book study. If the explanations are too numerous or too minute, the mind of the learner is freed from work and left merely recipient; and thus many a bulky school-book though admirable for the teacher, is wholly unsuited to the needs of his pupils. And if, on the other hand, the book is literally a *text-book*, — a compendium of history or grammar, an outline in science, or a collection of principles in mathematics, — then the study is dry, and repulsive, and a full success is impossible.

A second advantage of oral teaching is that, especially with the younger pupils, it secures mental power which book study cannot give. When the child is led by well-directed questions to take an active part in a new lesson, or still better, to ask questions himself, his attention, quickly excited, is easily kept; and by a comparison of objects, or of processes, or of definitions, or of reasons, his judgment is thoroughly exercised. It may be made, too, an admirable means of drill in language, both for increasing the child's limited vocabulary and for perfecting him in the oral use of it. The brain is not ransacked, as in ordinary lesson recitation, for words half understood and imperfectly remembered, but is exercised in a hundred useful ways, each serving its part in the complex process of education.

Another claim for consideration, founded on that last given, is that oral teaching develops in the child a consciousness of power and confidence in the use of it. How many boys and girls are accounted dull, and believe themselves so, who are bright, self-possessed, and capable in all else but their lessons! How many men, indeed, distinguished in after life as successful merchants, soldiers, naturalists, as scholars even, were considered dunces at school! and chiefly, it may well be confessed, because the only avenue to scholarship was thought to be the study of books.

In a recent address on "Methods," Professor J. H. Allen, of Harvard University, speaking of "the difficulty that most learners have in understanding lessons in a printed book," makes this striking statement: "I have myself had a good many pupils, first and last, most of them private pupils; and I cannot remember one who was intelligent enough to understand a plain rule in arithmetic or a plain rule in grammar from the text-book. I will go further, and say that grown people, too, find the same difficulty. For myself, almost all I have succeeded in learning of mathematics or grammar since leaving college has been from talking with the best mathematician and the best grammarian I could find." This view is an extreme one; yet who can deny that to the mind of the average child, — to nine, indeed, out of every ten, — the printed book must be illuminated by the teacher's explanations before its obscurities are entirely cleared away?

But if oral teaching develops self-reliance in the learner, it no less awakens the sense of power in the teacher. As he comes before his class, it is not with book in hand, to verify by the printed word the answers mechanically given to questions mechanically put; but without book, the subject clear and complete in his mind, he studies his class while he questions or instructs them, — encouraging the backward, cultivating the intelligence even of the brightest, and adapting his work to the various needs of all. To him it becomes an exhilarating mental gymnastic, developing observation, expertness in illustration, logical and rhetorical skill, sympathy with his pupils, and such knowledge of their minds and characters as will be of the greatest service to him in his future training of them.

Oral teaching, again, allows *real* or *objective* illustration; while book study, if not making it impossible, at least discourages it. This is more obviously true in the descriptive and physical sciences than in either mathematics or language; yet even in these, the illustrations, given in part by the teacher and in part called out from the pupils, will be more vivid and more instructive, *because adapted to the occasion*, than those *cited for general use* in the text-book. We may

assume, too, that the teacher will have at hand a well-selected assortment of illustrations to use as need arises. He must not forget, however, in his self-conceit, that the contributions furnished by his pupils, if to the point, are far better than his best; for they are the fresh product of the young mind, and thus, *for it*, the more real.

Among the advantages claimed for oral teaching, and not a minor one, is the consequent relief it affords to the eyes. Near-sightedness and other eye troubles are alarmingly prevalent. "The statements of all authorities," writes Prof. Cohn, in an article reprinted in the "Popular Science Monthly" from a German magazine, "establish that everywhere, and in all institutions, the number of myopes increases from class to class. It ranges at between thirty-five and sixty per cent of the whole number of scholars. . . . I examined the pupils of the Friedrichs Gymnasium at Breslau in 1871, and repeated the examinations upon the same persons three semesters afterwards. Seventeen pupils who had been found normal-sighted at the first examination had become short-sighted, and more than half of those who had appeared near-sighted at first had become more so." And he adds, in reference to the proper selection of school-books. "I believe that letters which are less than one millimeter and a half in height [*i. e.*, long primer] will finally prove injurious to the eye, and . . . the narrowest interval that should be permitted between the lines is, in my opinion, two and a half millimeters [*i. e.*, one tenth of an inch]." And although, according to Dr. Derby, "there is found in the United States only about one third as much near-sight as is met with in Europe," yet "this percentage steadily increases, and at the age of twenty, at least twenty-six in a hundred are thus affected." Now, any plan which, without impairing the efficiency of our schools, shall in some degree diminish the continuous and excessive strain upon the children's sight, should be welcomed as a great boon. Much has been done by demanding large, clear print in school-books, by a proper arrangement of desks in reference to light, and by a suitable alternation of study and recitation. Oral instruction will do still more; for even should the pupil be required to take notes of the lesson as it proceeds, yet the eye is frequently diverted to the face of the teacher, or to the illustrations he makes by experiment or at the blackboard.

It is not claimed that these points of excellence belong to the oral method alone. A skilful and sympathizing teacher will, by whatever method he employs, develop confidence in even his most diffident pupils. His experiments may be just as apposite when made after the book study as when introductory to it. But the main point

remains: that oral teaching, as no other teaching can do, sees the child's need as it arises, and adapts itself promptly to meet it, thus making an impression more vivid, real, and lasting.

Objections, however, both theoretical and practical, are made to its general use. By it the teacher, it is charged, becomes a mere talker or lecturer, self-deceived as to his pupils' progress because satisfied with his own clear idea of the subject and mode of presenting it, while they may have remained entirely passive. It is liable to become what Mr. David P. Page used to call the "pouring-in process," than which nothing could be more futile in itself and more disastrous to the mental training of the child.

It is often sadly wanting in exactness; and during the lesson, so much may be said and *ostensibly* taught, that but a vague impression will be left of many things half understood and half remembered: and as Superintendent H. F. Harrington pointedly puts it, "If any one expected accurate knowledge to be gained from oral instruction so as to be the subject of critical examination, he would find himself wofully mistaken."

To the child, too, attractive as oral teaching may be made, — nay, because it *is* attractive, — the sense of obligation *to work* may become weak: study, hard, earnest, patient study, — which, after all, more than good instruction, makes the successful scholar, — grows into disuse. For

> "Study is like the heaven's glorious sun,
> That will not be deep searched with saucy looks".

a caution quite as significant as its counterpart, —

> "No profit grows where is no pleasure ta'en:
> In brief, sir, study what you most affect."

Bacon recognizes the important truth contained in these sayings of the great poet, when he writes: "Another precept is, to practise all things chiefly at two several times: the one when the mind is best disposed, the other when it is worst disposed; that by the one you may gain a great step, by the other you may work out the knots and stounds of the mind, and make the middle times the more easy and pleasant." It may be questioned whether oral instruction *as usually pursued* affords sufficient opportunity for this working out "the knots and stounds of the mind."

Again, it is objected, where oral instruction is the teacher's chief occupation, the demands made upon him are excessive, not only in the preparation for his daily work, but in the physical fatigue he must undergo in its execution.

It will appear, further on, that most of these objections will fall to the ground if a wise method of oral teaching be carefully formed and judiciously followed. The last one, the excessive drain upon the teacher's energies, will always remain a serious one, and never to be entirely overcome until all our teachers are well informed, well trained, conscientious, of sound health, and of ready tact in adapting means to ends.

There may be other objections, but these are believed to be the principal ones. They certainly are very plausible; and we frankly admit that unless oral teaching can be shown, in spite of them, to have undoubted merits, rendering it superior to other modes, it would be wise to retain these other modes, making the most of the opportunities they furnish, and remedying their defects as best we may.

But as stated at the outset, no single method is the best method for all pupils, for all teachers, for all topics; and it is necessary to consider the proper limits to its use. The numerous failures it has met with, though each might have been prevented by a more careful study of the conditions under which it was used, have brought it into undeserved discredit. What, then, are these limits?

First is the limit of the pupil's age. Little children can be taught in no other way. Only after a year or more of oral instruction can book study be required, and then but to a very slight extent. In primary schools and kindergartens, oral teaching must prevail, and in its purest form. True, there are writing, drawing, building, weaving, moulding, singing, and other practical exercises, following the lessons; but the lessons themselves are from the lips of the teacher. Where lesson learning from books is attempted or made compulsory, as is still sometimes done even with the younger children of primary schools, the languor, inattention, disquiet, and ill behavior which prevail are but a fit response to the unphilosophical, though it be time-honored, mode of training them.

Soon, however, in some studies the use of text-books seems necessary. How can they best be used? Now, text-books are only a means for securing the suitable growth and training of the child's mind. The information they contain and would convey is, in good school-books, selected with reference to this great end, and in amount it may be comparatively small. The public library, the newspaper and magazine, social intercourse and experience, give to the intelligent child tenfold more information than he gets from his school-books. Brief compendiums are proverbially uninteresting; but if the child's first introduction to a study is through oral teaching, the dulness of the meagre printed sketch disappears; for it is

illumined by the fuller statement, the anecdote, the question and answer, the illustrative experiment, and especially the properly bestowed *emphasis* of the prior exposition.

And might not this practice of anticipating the book study by some oral introduction, so necessary in almost all the lessons of a grammar school, be advantageously continued through the high school and the college? Indeed, for a trained mind the danger before adverted to, lest oral teaching become mere talk, will in the higher institution, with its educated instructors, no longer exist. Hence the favor with which the lecture has always been sustained in university instruction. Even with trained minds, however, it may be used to excess, and must be supplemented by written themes, laboratory practice, field work, or other practical exercises.

As regards the teacher, the limit to oral instruction will be dependent mainly on personal qualities: his physical vigor, management of voice, and readiness to adapt himself to emergencies and "to think on his feet," — qualities that he may naturally possess or should have secured in his professional training. His training, however, must be a constant, a daily one; and it might be found, in a candid confession, that this necessity of never-ceasing preparation is the true reason why so many teachers, having tried the oral method, slip back into the easier one of hearing lessons assigned from text-books. If the time ever come when schools and classes shall be of moderate size, and some part of the burden be lifted which now presses so heavily in the multifarious marking of attendance, conduct, recitations, and examination papers, the teacher will be glad to undertake, with freshness and with success, the proper function of his office, indicated in the name of *teacher*.

But the principal limits to the employment of oral teaching will suggest themselves as we discuss the various methods of conducting it. A full discussion of them is not necessary. Indeed, for reasons already presented, minute regulations in a matter so important as methods of instruction would, if rigidly enforced, degrade teaching from a profession to "a mere mechanic art."

Three methods may properly be considered, together with the subjects of instruction appropriate to each.

The first is that of the formal lecture. This is especially suitable to the college, where the professor can bring within small compass the results of the investigation of years, and where the student, thus rapidly and wisely directed in his own researches, is saved much misapplied toil. There is hardly a subject of science, literature, or art where the lecture cannot be used. Occasionally, too, the

customary methods employed in high and grammar schools may be varied to advantage by the introduction of a lecture. Its æsthetic influence, akin to that of impressive reading or of noble music, is no small matter, where the days are given up so much to the details of prosaic work. Consecutive thought becomes a possibility, and the deeper emotions are stirred with new life. Even in the primary school all this is possible, especially in moral instruction.

The second method, too, is purely oral; but in it the class as well as the teacher takes active part. It is the method of "conversational lecture," made familiar in successful object teaching. The studies of our common schools are mainly in language, mathematics, and science, each of these having its theoretical and its practical side. The latter requires on the part of the pupil daily exercise in reading, speaking, penmanship, composition, ciphering, drawing, gymnastics, and use of tools and apparatus; and in these exercises, diligently performed, resides a large part of the valuable work accomplished in our primary and grammar schools. "Hand training is mind training"; and *mere* mind training, since long before Milton's day, has been but "that asinine feast of sow-thistles and brambles which is commonly set before [children], as all the food and entertainment of their tenderest and most docile age." To study, to understand, and to reason are, it is true, essential in school training. But these are surprisingly aided by what is sometimes a mere appendage or sequel to them, — that is, practical work. Practice, at least in the lower schools, must come before theory, facts before reasoning.

But studies have their theoretical side as well. The principles that underlie and by which are explained the facts learned, the sums worked, the experiments made, — these also demand attention. And here the very best use can be made of oral teaching. Not, it is true, in all branches alike. The most abstract, as mathematics and grammar, certainly require it. The natural sciences, allowing, as they all do, much illustration, can be well taught in hardly any other way. Question and answer by both pupil and teacher, experiment and explanation, give a vitality to the pursuit of the sciences by this method that book study cannot possibly secure. Whether it is equally *effective* will depend on the skill of the teacher; for the animation and interest aroused, however valuable, are by no means the truest criterions of his success. To insure success he must have a well-formed plan of each lesson; a plan which will, in general, have been taken from an authorized and prescribed book, — the teacher himself being thus relieved from the labor of preparing it, and from

the danger of falling short or of going outside of the proper amount to be taught; and though this plan be modified in details, he must present it *in orderly form* to his pupils. Yet, as the lesson proceeds, he must constantly give them the opportunity to secure the high gratification coming from an original discovery of fact, process, or principle, and an original statement of it. He must let the work, as much as possible, be their work, in which they may indulge an honest pride. From the notes of such a lesson, taken at the time or subsequently copied from the blackboard, they should be required to write off more complete reports, to serve as material for recitation, review, and examination. By this method, in fact, the pupils will have made their own text-books.

In most cases, however, either from the incompleteness or from the inaccuracy of these records, need will be urgently felt, sooner or later, of a trustworthy text-book; some standard authority, to serve, not indeed as the introduction to the subject, yet as the basis of further study and review.

And here we come to the third method of oral teaching. By this, each lesson is learned from a book, but only after a *previous exposition* by the teacher. Roger Ascham, detailing the duties of an instructor in Latin, says: "First, let him teach the child cheerfully and plainly the cause and matter of the letter [one of Cicero's Epistles]; then let him construe it into English so oft as the child may easily carry away the understanding of it; lastly, parse it over perfectly. *This done*, let the child by and by both construe and parse it over again."

And Alexander Bain, in his treatise on education, says, also in reference to teaching languages: "With a view to the firm and permanent association of one word with another word, there should be a moment of isolated and concentrated attention upon the two. This is gained in various ways. The turning up a dictionary is the commonest way of isolating the attention; to a young, fresh memory, one dictionary reference is usually enough, provided the word soon recurs. . . . There seems no reason why this should not be combined with a little of the other method; namely, for the master to expound the passage fully, in the first instance, and then require the pupil to reproduce it next day by memory, — aided, if need be, by a reference to the dictionary. . . . No doubt the method of *prior exposition* is best suited to scientific lessons, as geometry; but it is not wholly unsuitable to lessons of pure memory." And Mr. Mayo's testimony does not contradict this when he says, "A good text-book, with a hard-working scholar at the end of it, is the best way of

developing knowledge and power in the school-room, until an expert steps into the teacher's desk and illustrates the printed page by the presence of a living soul."

Great harm may come, however, from making this prior exposition too minute. The indolent pupil will soon learn wholly to depend on what is thus supplied, while the bright and ambitious are vexed at being denied the opportunity of personal research. This opportunity is the child's right, and must be honestly respected. All good education, indeed, is largely self-education, but is not therefore to be pursued without some help or guidance. And this granted, it becomes an important question whether the guidance should be through *the printed page of a book* — written to suit the imagined wants of the average pupil, the dull and the quick alike — or through *the spoken word of a teacher*, who knows the respective needs and powers of each individual of the class before him, and can adapt his teaching accordingly. Is it not quite as possible that a text-book may help too much as that the teacher will explain too much? Both are grave faults: but the important point is, that in oral teaching the amount and kind of help to be given are in the teacher's own hands; while, with the use of a text-book, though a deficiency of explanation may be readily supplied, *an excess cannot be hidden or removed*, and the learner is *carried* where he should only be led, or directed, or even be made to tread the path alone. For, observe, though a book can be thoroughly adapted to the wants *either* of teachers or of their pupils, seldom does it well serve both. The teacher should have for constant reference and for private study the best works upon all the subjects he is to teach. But these works are evidently unsuited, and usually inaccessible, to young learners; and the brief compendiums of principles and rules, with their practical applications, that pupils may require, are wholly inadequate for the teacher.

Of these three methods of oral teaching, — namely, the formal lecture, the conversational lecture, and the prior exposition of the lesson assigned from a book, — the first can be but sparingly introduced with success into common-school work. The second, supplemented by written abstracts of each lesson by the pupils, in small classes and with able teachers, can be made exceedingly effective, — the most effective of them all. The third is suited to nearly all studies and to all ages, except of the youngest pupils; it is already very extensively practised, though seldom with system and with a clear understanding of the conditions needed for success.

A reaction has already set in against the multiplicity of studies in our schools; and when a study is not of undoubted profit in disci-

pline or in knowledge, it is well to cut it from the course. But we do not need, on the one hand, to return to the study of only "the three R's" in elementary education; and it would be equally foolish, on the other hand, to acknowledge that the superiority of our present schools over those of former times — a superiority which many deny — is *because of* the number and variety of the branches now taught in them. We may secure the severe training of the older ways, and at the same time receive all possible benefit from the more generous provision afforded by our present system. Reduce the number of disciplinary studies to the standard of the olden time, and give over most of the geography, history, literature, natural history, and physical science to pure oral teaching. Two lessons a day, one in mathematics and one in language, might ordinarily furnish abundant discipline in reasoning; while reading, writing, drawing, observing, experimenting, and oral lessons would well occupy the remaining school hours, more profitably than by the usual plan, and without the weariness, discouragement, and impaired eyesight that our pupils now too often show.

If, among the features of our schools, admirable as some of them are, anything is more sad than the hard, dull, dry task-work still to be found in them, it is the thwarted ambition of the eager young student aspiring to the success never to be reached; the bright promise of the child unfulfilled in youth, and in manhood, too often, alas! to "fade into the light of common day." The present burden of learning from so many books, and of reciting so many and so various lessons, cannot be safely borne. The danger involved in the attempt is only paralleled by the failure sure to be disclosed in the results; especially because, by fifteen years of age, long before the body and the mind have reached their strength, the vast majority of school children have bidden farewell to school study, and well or ill prepared, must enter on their work of practical life.

It is not the province of this paper to propose a suitable scheme of study. But it is confidently claimed that by a well-considered and systematic use of oral teaching, through one or more of the methods herein described, many evils in our schools, now widely seen and deeply deplored, can be entirely removed.

EDUCATION AT THE SOUTH.

BY J. L. M. CURRY.

THIS subject is somewhat misleading. Education is education, whether at the South or at the North. No Mason and Dixon's line runs through the individual or the aggregate human mind of this country. Persons of like ages and surroundings have the same educational necessities. The subject was doubtless given me because of the exceptional circumstances that belong to or environ the South, and thus modify the general question.

I am sick *ad nauseam* of the unceasing allusions to the war; and yet, with us at the South as with you at the North, it is somewhat like the Flood, — a standard of date, an epoch. As we speak of ante-diluvian and post-diluvian, so we speak of ante-bellum and post-bellum. Allow me to say that before the war the South had private schools, academies, and colleges, the last often misnamed universities. For the higher education of young women, as much was done at the South as at the North, if not more. Much misapprehension exists on this general subject of "Education in the South." In proportion to population, taking man for man, negroes excluded from the calculation, the South sustained a larger number of colleges, with more professors and more students, and at a greater annual cost, than was done in any other section of the Union. The same was true of academies and private schools. According to the census of 1860, Massachusetts had a population of 1,221,464, and Virginia 1,047,411. Massachusetts had 8 colleges, with 96 teachers and 1,733 students, at a cost of $195,110; Virginia had 23 colleges, 183 teachers, and 2,824 students, at a cost of $243,940. Massachusetts had 319 academies, 633 teachers, 14,001 students, at a cost of $490,047; Virginia had 398 academies, 720 teachers, 13,204 students, at a cost of $544,241. New Hampshire had a white population of 325,579, and South Carolina 291,388. New Hampshire had 2 colleges, 29 teachers, 390 students, at a cost of $26,370; South Carolina had 14 colleges, 90 teachers, 1,384 students, at a cost of $192,675. New Hampshire had 208 academies, 351 teachers, 11,444 students, at a cost of $25,331; South Carolina had 228 academies, 367 teachers, 8,227 students, costing $293,244. These comparisons might be further extended with similar results. The white population of the Northern States in 1860 was about 19,000,000; of the Southern States, about 8,000,000. The North had 205 colleges, 1,407 teachers, 20,044 students, at a cost of

$1,514,298; the South had 262 colleges, 1,488 teachers, 27,055 students, at a cost of $1,662,419. These figures, subject doubtless to some modifications and explanations, are not introduced for invidious comparison, but that we may look at the subject intelligently in all its bearings.

In the matter of public schools, sustained by taxation and free to all who chose to attend, the South at the date given exhibits a painful contrast. The South was far behind the North in the provision made for universal education. In some towns free public schools were sustained, but no plans adequate for universal education existed.

While I shall not seek to excuse this neglect, some palliating considerations may be suggested. African slavery sparsified the population, prevented immigration, created a select class, — an aristocracy, — restricted agriculture to a few products, arrested manufactures and mineral development, and confined the wealth in the hands of a few persons. Slavery, as introduced into and fastened upon the South, was a great blunder, — a social, political, economical, educational blunder; and I rejoice and the South rejoices that it is gone, irrevocably gone.

While slavery has fortunately ceased, it may be well to remember that the prejudices engendered by the "peculiar institution," and the angry controversies to which it gave rise, have not been eradicated on either side. Let us practise toleration, forbearance, and patience, and not be too impatient for results.

In the minds of many people at the South, there were deep-rooted convictions against gratuitous education by governments. Our habits and institutions were different from yours. Habits and customs change slowly. In the establishment of free public schools, obstacles were to be overcome, and making haste slowly was found to be a wise maxim.

At the close of the war, the South was poor and nearly bankrupt. Everything was out of joint; despondency and despair settled on the hearts and paralyzed the energies of some of the bravest and the best. To the most sanguine the outlook was not hopeful. Problems numerous and difficult, requiring decades of years, pressed for immediate solution. The labor system of centuries, inwrought with every fibre of the social and political and economic fabric, was in the twinkling of an eye destroyed. Convictions long cherished, inherited from grandsires, as to the character and structure of the government, were overthrown. A new era suddenly dawned; a new South had to be built amid the ruins of a perished civilization. To look back to the surrender at Appomattox and contemplate what has since been accom-

plished awakens wonder and gratitude, and is the highest tribute to the energy and capacity of the people and the creative power of free institutions. In the brief period which has elapsed, myth and fable have been eclipsed by sober, stern realities. Questions most vital and complicated, which embarrassed the statesmanship of the country, this is not the time nor the place to consider. Suffice it to say that when the Confederate soldier furled his flag, there was not a Southern State which had a system of public schools; now, in organic law and in statutes, universal education is recognized as a paramount duty. The newspaper press gives intelligent and effective support; party platforms incorporate public schools into political creeds; State revenues are appropriated; local communities levy taxes; and scarce a murmur of dissent is heard in opposition to the doctrine that "free governments must stand or fall with free schools." Much of this improved public sentiment and improved legislation is due to the wisdom of the Peabody trustees, and to the sagacity and unrivalled common-sense of Dr. Sears, and the thorough familiarity with all the details of public schools which he acquired when he was Secretary of the Board of Education of Massachusetts.

Laws on statute books do not execute themselves: they need the vivifying and sustaining force of an enlightened and approving public opinion. State school systems, administered by boards of education, State superintendents, educational journals, normal schools in several of the States, teachers' institutes, local and State, attracting increased attention and diffusing more widely their benefits, are all evidences of progress; but they need to be strengthened and placed beyond the contingency of a popular election.

There is not with us a proper appreciation of the science of education. Teaching as an art and as a science is imperfectly recognized; but there is or should be a science of education, and EDUCATION can do no more valuable service than to continue its labors, so wisely begun, in enforcing and elucidating this truth. Commodore Maury, from the log-books of sailing vessels, gathered a mass of confused and unrelated facts, and by rare powers of analysis and generalization, made inductions of principles which, put into charts and sailing directions, have almost revolutionized navigation. We need some philosophic educators, who, collating facts gathered from the nursery, the school-room, the play-ground, shall classify, with scientific accuracy, these mental phenomena, and by a process of laborious induction construct a science invaluable to the educator, in its statement and exposition of the true laws of mental growth and development.

As auxiliary to this may be mentioned professional training. The "New England Journal of Education," an authority in educational matters, says, "The training of Southern common-school teachers is now the most vital point in American education." The Peabody trustees, concurring in this opinion, have declared that in their judgment the benevolent designs of the trust can be best secured hereafter by the education of teachers for the public schools. Let us not deceive ourselves, however, as to the work to be done. Thorough and repeated canvasses will continue to be necessary to inform the public mind, convince of the indispensableness of free education, and of the necessity of local taxes supplementing State grants for the support of schools. State and local taxes, liberally as they may be voted, will not suffice. Northern generosity has been munificent in aid of education at the South: since 1862, over $6,000,000 have been given for the education of freedmen. All honor for these ecclesiastical benefactions, but they do not meet the need. We want primary schools, under State control, for universal education. The illiteracy at the South is appalling; it is not confined to the negroes. In the Southern States, by the census of 1870, there were 820,022 illiterate colored adults; but alongside of this fearful mass of ignorance were 317,281 illiterate white adults. In a government having its life in the intelligence and morality of the masses, a white illiterate voter is as dangerous as a black illiterate voter. "The highest form of citizenship necessitates the highest form of intelligence," and what grows on the head, whether hair or wool, neither increases nor diminishes the necessity.

The last census shows that the negroes increased in ten years from 4,486,381 to 6,577,151, or thirty-three per cent. The elevation of this race to complete manhood and womanhood, to the full appreciation of the responsibilities and duties of the parental relation and of the privileges and prerogatives of American citizenship, is a great problem, requiring generations to solve. The Anglo-Saxons took half of a millennium to grow into civilization and freedom; and why should we expect the negro to spring, Minerva-like, into a state which with other races demanded a tedious probation? While some are too incredulous as to advancement of the negroes, others are too impatient for early and visible results. A vast deal has been accomplished since emancipation. The Southern white people have paid millions of dollars for the education of the negroes. Most gratifying progress is seen in their increasing intelligence, thrift, and acquisition of property. The revolution in public sentiment as to the educability of the race, resulting in voluntary taxation for their benefit,

instead of eliciting reproaches and harsh criticism, should call forth charity and praise.

In the South, public schools and normal schools need to be increased and improved and more liberally sustained; but home taxation and Northern beneficence are insufficient to this end. The General Government should come to the rescue. This is a question of national importance, far outweighing bimetallism, legal tender, Pacific subsidies, dead-locks, and every legislative question except civil-service reform, of which it is a vital part. Among the 1,137,311 illiterate adults in the South, what a mass of ignorant voters! What a factor in elections! Untutored, non-property-holding voters are tools for demagogues, and make "machine politics" easy of application. Seven hundred thousand illiterate voters can make governors, congressmen, and Presidents; can decide great questions of national policy, exert an influence coextensive with the Union, and are themselves eligible to offices of trust and honor. I have myself heard appeals to colored voters, pressed pertinaciously and successfully, based on the ground that they were neither legally nor morally bound to pay a public debt contracted before they were citizens.

Slavery has been pronounced to be a gross blunder. Terrible as was the war, it has had much compensation in the liberation of the slaves. Emancipation, however, has not regenerated the race, nor qualified them for the discharge of the duties and responsibilities of citizenship. The elective franchise is not a universal catholicon; has no talismanic virtue: but it implies the possession of intelligence, an appreciation of the value of free institutions, and the courage and virtue to sustain and perpetuate them. This is a "government of the people, by the people, and for the people." The ballot is the freeman's prerogative. It is stronger than bayonets. It should be conjoined with patriotism, knowledge, and integrity: it often represents passion, prejudice, ignorance, crime. President Garfield, in his inaugural, spoke of a free ballot as of priceless importance, and worthy, for its security, of the exercise of all federal and State power. So say we all. But for a ballot to be free, it must be the symbol, not of stupidity, superstition, corruption, intimidation, but of exalted ideas, pure principles, and intelligent comprehension of its uses and ends. A ballot may be the despotism of ignorance, faction, and organized meanness.

When England enlarged the franchise in 1867, Sir Robert Lowe said the first duty and interest of England was to educate its masters. Illiteracy is a present, pervasive, and potential peril. It threatens the overthrow of free institutions. It is a corrosive malady

poisoning the vitals of the government. No evangel of "dynamite and dagger" is the cure for this political pyæmia, but widely diffused, universal education, in alliance with Christian morality.

The removal of this mass of illiteracy cannot be effected by private benefactions, by denominational and State activities. The power and resources of the federal government should come to the aid of the States, unable of themselves to meet this emergency. This is a *national* question, more imperative than Mormonism or Chinesei mmigration or a Presidential election: unless rightly solved, we may have no President to elect. Let me reaffirm with emphasis, as an educator, a patriot, an American, that on universal education, on free schools, depend the prosperity of the country, and the safety and perpetuity of the Republic. The highest duty of a government is self-preservation.

HAVE WE A SCIENCE OF EDUCATION?

BY JEROME ALLEN, A. M., PRINCIPAL STATE NORMAL SCHOOL, ST. CLOUD, MINN.

HAVE we a science of education? is doubtless the most important question that can be asked the world's teachers to-day. If there is such a science, and it is to any good degree ignored, great injury must result to learners in school; but if on the other hand there is no such science, and there are no principles of education, — no properly arranged methods of teaching, — and if it is true that teachers are "crushing out naturalness" by trying to follow what they imagine is scientific, then all our much-vaunted talk about systematic education and scientific methods is mere foolishness, and the sooner it ceases the better it will be for the school, as well as for the reputation of those who are recognized leaders in educational thought. It is obviously impossible, in a single article, to go through the whole range of knowledge and show all parts of an educational psychology; we can only point out where it may be found.

Education may be defined to be the harmonious development and training of the spiritual, mental, and bodily powers of a human being. The mind has faculties considerably known, and in general the order of its healthy growth is understood. Now, if but a few of these facts have been properly arranged, we have the beginnings of the science of education; for a science consists in a logical classification of knowledge on any given subject. As in the development of civilization, the ornamental came before the useful, so in the development of an educational science, the empirical comes before the scientific. If the laws of human growth were not somewhat accurately understood, it would be useless to attempt to formulate them into logical order; but they *are* understood and *have been* scientifically arranged.

It should be remarked at the outset that there is a great difference between teaching and education. The first is specific, the second is general. Everything educates, but everything does not teach. Teaching draws from a spring, while education furnishes this living fountain of human thought with the sparkling waters of knowledge and skill. It is not claimed that education is a perfect science; for if it were, then all teaching would always set the same subjects before learners, in the same manner, under the same circumstances. A real teacher will have his own manner, but he cannot have his

own method; for this comes from a universally possessed science, that can never become the property of any single individual. He may direct the attention of another by means of his senses, but in so doing he does not necessarily become an educator: he only furnishes the means of education. Personal influence and experience always educate: a teacher directs; he may also educate, but he is not an educator *because* he is a teacher. We shall now endeavor to point out the outlines of that science which is already exerting a most powerful influence on the human race, and at no distant day is destined to dominate all other sciences and all professions.

The laws of mental growth must be defined and classified in order to lay the foundations of this science. Among the more important of these we note the following.

The powers of observation, comparison, choice, and memory are developed at a very early age. Perception is antecedent to memory, and memory is strong before imagination, understanding, and intuition. Abstraction comes before reasoning, and last of all the pure reason is developed. Consciousness and attention are only attributes, not faculties, of the mind. They are only forms of mental activities. The power of attention underlies all the faculties of the mind, and should be cultivated at the very commencement of a systematic course of educational training. Conception, or the power which the mind has of making anything a distinct object of thought, is also not a distinct faculty, but only grows with the growth of the faculties.

It follows as a consequence that the learning of absolutely isolated facts is not appropriate at an early age; neither is anything to be taught which depends upon the activity of reason, reflection, and judgment. Mathematics and geography, except elementary home lessons, cannot be required of young children. It is impossible for a young mind to associate ideas sufficiently so as to realize the world as a whole. He may repeat words, for verbal memory is active; but when he says, "The world is a globe twenty-five thousand miles in circumference," or when he says, "The equator is a plane, equally distant from either pole, cutting the earth into two similar parts," he cannot possibly realize what the words mean. Very early, all the studies that bring into play association by similarity and contrast, and the comparison of one thing with another, can be taught. The concrete should be exalted and the abstract kept out of sight. The child should be constantly led to perceive, observe, compare, and conclude. Very early, the memory should be strengthened by requiring pupils to accurately repeat what they have been *taught.* The imagination should be early cultivated by leading the learner

to associate ideas of objects and express the results of his observations.

It is thus that the science of education causes a correct classification of the studies, proper to be pursued in a school, to be made; and the scientific teacher sets before his children the proper mental food at the proper age. Being so well adapted and so well prepared, it is eagerly taken and assimilated, and by it the strength of the mind is rapidly promoted. On the other hand, the unscientific teacher, with no knowledge and less care concerning the capabilities of his pupils, places requirements before them of such a character as to disgust them with learning. The result is ignorance and imbecility. There is a science of feeding both the body and mind. If strength is required, careful attention should be given to the wants of each.

The following principles are believed to have been derived from the nature of the mind and the early growth of its powers:—

1. Culture is worth infinitely more than a knowledge of isolated facts.

2. Culture is obtained by exercise.

3. Exercise, at first, will attend to the perceptive faculties, and develop them by the cultivation of habits of seeing things at hand. This objective perception, or what is usually called simple perception, soon grows and matures into real strength and force. Closely connected with this exercise will be the development of habits of seeing things not at hand, or subjective perception, or the imagination. This under proper education becomes as strong at an early age as at any time during the entire life.

4. While the perceptive faculties are being cultivated, the memory should be furnished by association and suggestion. This will be accomplished by grouping of similars, by contrasts, by cause and effect, and by contiguity of time and place.

In these ways and in this order the *early* culture of the mind will be certainly promoted. It is the order of growth, and must be followed in any systematic course of education. It must be remembered that observation must come before comparison, and comparison before conclusion; that only by processes of comparison and generalization can hypotheses be inferred: therefore a hypothesis cannot be demanded until after long-continued and patient study has developed the power of drawing correct conclusions.

Froebel's ideas of forms of cognition, as shape, size, and relative position, come before ideas of forms of life, as tables and chairs; and these again come before ideas of beauty, as cubical and spherical objects and their symmetrical combinations.

Let us see how the ideas of duty, authority, and order can be developed: —

1. The earliest evidences of human existence are the feelings.
2. From feelings come ideas.
3. By means of a logical arrangement of ideas, thoughts are produced.
4. From feelings, ideas, and thoughts come volitions.
5. When feelings, ideas, thoughts, and volitions are properly regulated and carried forward into a line of action, the relation of cause and effect is seen and judgment is developed.
6. By the decision of our judgment we are forced to enact laws, in consequence of which we have authority and order. It follows, therefore, that before a child can be taught to respect authority and love the order which it produces, and reasonably obey the laws which are made for his government, his feelings, ideas, thoughts, and volitions must be cultivated, in order to see clearly the relations of cause and effect, and cultivate in him habits of reasoning and judgment. Before this point is reached, his unreasoning obedience may be secured; but after his judgment approves what he sees, he has a logical relation of cause to effect, he knows what *right* is, and for the first time in his life he understands the meaning of that great word "duty."

It can now easily be seen that true education is not a spontaneous thing, but comes up from known principles of universal acceptance. It is progressive, keeeping pace with the healthy growth of the mind. The true teacher will wait until the proper growth has been attained before certain things are taught and certain methods pursued. He studies carefully the whole being of man and discovers the laws of its harmonious action, just as a skilful engineer thoroughly studies the mechanism of his engine, and knows how wheel must fit to wheel; how valves, pipes, boiler, condenser, and governor must be arranged to produce the most effective results. There is much to learn concerning the *parts* of the body, mind, and soul, and there is much more to learn concerning the conditions of their harmonious action and healthy growth; but enough is known to warrant us in formulating certain fundamental propositions which have been and always will be underneath the whole science of education. No teacher can ignore one and still be scientific in his methods. All real educators have recognized them, and always will; for they stand in the same relation to a human being that Newton's laws of gravitation and motion do to the physical universe. These laws existed ages before Newton lived; and worlds and suns, obedient to them,

performed their revolutions around their centres. So, many true teachers have been guided by correct principles in educating the human race before laws were correctly arranged and published to the world. The following principles seem to be established as lying underneath the education of our entire nature: —

I. Strength comes from exercise.

II. Growth must be from within outward.

III. The basis of development is the *self*-activity of the child. This self-activity is of two distinct forms: from without inward, or receptive and acquisitive; and from within outward, or productive and expressive. These forms of mental training must necessarily go hand in hand; for it must always be true that objects must supply the self-activities of the mind, while it will also always be true that growth must be from within. We therefore conclude that —

IV. Education is not creative.

V. The ultimate aim of education is the perfection of our entire nature.

VI. This perfection can only be reached by the harmonious growth of all the faculties of the soul, mind, and body.

VII. In growth towards perfection, the various powers of our nature develop in a fixed order, subject to unchanging laws.

The following laws of teaching may be derived from the above principles: —

1. Correct procedure must be from the known to the unknown, in regular steps.

2. Knowledge alone does not educate.

3. Only what the mind appreciates by its self-activities can it really receive.

4. In examining objects and ideas we must proceed from wholes to parts. In building up ideas we must go from parts to wholes.

5. All instruction must necessarily be intuitional.

6. Knowledge must necessarily come before discipline.

7. A fundamental law of success in teaching is freedom of thought.

8. The first object to be attained in mental growth is the obtaining of knowledge; the second step is comparison; and the last is classification.

9. The objective method of instruction must always come before the subjective; the objective to definition the source from whence the subjective starts.

The following rules are naturally deduced from the foregoing principles and laws; they should guide the teacher always in presenting knowledge to the minds of beginners: —

1. The order of the growth of the powers of the mind must be known and followed.

2. Experience should be every teacher's best guide, if he knows how to observe.

3. Requiring the recitation of memorized words is wrong until the thoughts underneath the words *have been taught.*

4. Never do for a learner what he can do for himself.

In teaching, the concrete will come before the abstract, particulars before generals; at first the inductive before the deductive, the known before the unknown, and the practical before the theoretical. In more mature years, the theoretical may come before the practical, and the unknown before the known. In other words, inductive methods are always to be used at first, while deductive ones may be practised in more mature years.

It is universally true that the real teacher is first certain that what he teaches is adapted to the needs of his pupils, and then it is also universally true that he *teaches* it. After he is certain it is thus brought within the comprehension of the learners, he is very particular to have it thoroughly memorized. He insists on the reproduction of the very words. No one can be more uncompromising than he in rigid requirements as to accurate repetition. Scientific education and educators have been often held up to ridicule because frequently they have been poor disciplinarians. An instructor may prepare the ground and sow the seed thoroughly, but he may fail to plough it in. The utmost care should be given to this part of practical education.

What we have said has necessarily been much condensed, because we have aimed only to present a bird's-eye view of a vast territory. The more minutely each separate division is examined, the more will the explorer become convinced that order and beauty exist in every part. Not only is this whole science grand, but its elements, which go to make up by order and arrangement its entire whole, are exceedingly interesting. The study of the growth of a human being must always be a most fascinating pursuit. How shall we measure the influence of him who directs the streams of thought and action? By what words can he be commended who tunes the strings of the human harp so that from it can be struck the magnificent chords of a successful life? The object of all education is power. There is no power without training and knowledge. Correct knowledge leads directly to goodness, therefore knowledge is the great aim and end of the science of education.

NOTES ON THE DEVELOPMENT OF SELF-CONSCIOUSNESS.

FROM "DIE SEELE DES KINDES," BY PROF. WM. PREYER.

TRANSLATED BY MARION TALBOT.

BEFORE a child can understand that the parts of his body which can be felt and seen belong to him, he must have had a great number of experiences, associated for the most part with painful sensations.

But little help in developing the notion of the Ego is gained from the first movements of the hands, which the infant puts in his mouth at an early period, and which must give a different sensation from other objects when he sucks them. The fact that my child for months pulled at his hands as if he would tear them apart, and struck at his head when experimenting with his hands, shows how far removed from self-consciousness these movements are. At the end of the first year my child had a predilection for striking hard objects against his teeth, and took delight in grating his teeth. On the four hundred and ninth day, when he was standing in his crib and holding on to the railing, he bit his bare arm so hard that he instantly screamed with pain. The marks of the teeth could be seen for a long time afterward. The boy did not bite his arm a second time, but later he bit his finger, and inadvertently his tongue.

The same child, who liked to hold a cracker to the mouth of any one he was kindly disposed towards, offered one to his own foot in the same way, and sitting on the floor, held the cracker to his toes, evidently taking pleasure in doing so. This occurred several times in the twenty-third month.

The child cannot distinguish himself from surrounding objects even when the faculty of observation is considerably developed. Vierordt thinks that a separation between general feelings and sensations which can be referred to the external world occurs in the third month. My observations do not admit of this conclusion; for even if this separation begin so early, it is not perfected until later. Even in the ninth month the little hands eagerly touch the feet, although no longer so eagerly as before, and the toes are put in the mouth like a new toy. In the nineteenth month the child still has no clear idea of all that belongs to the body. My child had dropped a shoe. I said, "Give me your shoe." He stooped, took hold of it, and passed it to me. When I said, as he stood upright, "Give me your foot,"

thinking that he would stretch it out towards me, he grasped at it with both hands, and labored long in the effort to get hold of it and pass it to me.

How little the difference between the parts of the body and external objects is recognized even at the end of the first year, follows from some singular experiments which the child tried quite independently. He sat near me at the table, and struck it frequently and quickly with his hands; first soft, then hard, next hard with the right hand alone, and then suddenly hit his mouth with the same hand. After holding his hand to his mouth for a short time, he struck the table again with it and then suddenly struck his head above the ear. This experiment seemed for the first time to impress the child that it was one thing to strike one's self, one's own hard head, and another to strike a foreign hard object (forty-first week). In the thirteenth month the child still hit his head while experimenting with his hand, and seemed astonished at its hardness. In the sixteenth month he was in the habit of pushing and striking the left thumb against the left side of the head, and the right thumb against the right side, while holding the fingers outstretched, which made him open his eyes and caused a singular expression of wonder. This movement is neither imitated nor inherited, but learned from experience. The child without doubt gains experience in a similar way in regard to holding the head, shaking the head, resistance of the body; perhaps, too, management of the head. The objectivity of the finger became known a short time before, when it was involuntarily bitten; for in the fifteenth month the child bit his finger so hard that he cried with pain. Pain is the most powerful master in learning the difference between subjective and objective.

Another weighty factor is the perception of a change in all kinds of tangible objects near at hand caused by personal activity; and the day in a child's life which is most remarkable psychogenetically, and most important in every respect, is that when he for the first time experiences the connection between a movement executed by himself and the sense impression which follows. The noise which is caused when paper is torn and crumpled is still unknown to the child. He discovers the fact that he continues to have the perception of a new sound whenever he keeps on tearing up paper into little bits, and he labors over the experiment daily until the connection has lost the charm of novelty. There is as yet no clear insight into the causal nexus; but the child has had the experience that he himself can be the cause of a combined perception of sight and sound, which is so far regular, whenever he tears paper, that on one side diminution in

size appears, and on the other a noise. The patience with which this occupation is pursued, especially from the forty-fifth to the fifty-fifth week, is explained by the satisfaction of perceiving that there is such a thing as cause, and that such a remarkable change as that of a newspaper into bits may be accomplished by one's own activity.

Similar occupations which are repeatedly undertaken, with results which are inconceivable to an adult, are shaking keys on a ring, opening and shutting a box or purse (thirteenth month), drawing out, emptying, filling, and pushing back a table drawer, piling up and scattering earth and gravel, turning over the leaves of a book (thirteenth to nineteenth month), digging and scratching in the sand, carrying foot-stools hither and thither, placing shells, stones, and buttons in rows (twenty-first month), emptying and filling bottles, bowls, and watering-pots (thirty-first to thirty-third month), throwing stones into the water. The zeal and eagerness with which such apparently aimless movements are conducted are noticeable. The satisfaction which they afford must be very great, and probably rests upon the feeling of strength produced by means of movements caused by the child himself (changes of place, position, form, etc.), and upon the recognition of causality.

This is not playing merely, though it is called so, but experimenting. The child, which at first took delight only in form, color, and motion, has become a causal being. Thereupon the development of self-consciousness enters a new phase; but it is not yet perfected. Vanity and ambition appear as factors of further improvement. Attention to the parts of the body and pieces of clothing, which are the objects nearest the child's gaze, especially promotes the separation in thought of the child's body from other things.

I particularly observed the way in which the child looked at his body, and also at his reflected image. In relation to the first I made the following notes: —

Seventeenth week. In grasping movements, which are still imperfect, the gaze is directed partly towards the object, partly towards the hand, especially if it has once grasped correctly.

Eighteenth week. The very attentive observation of the fingers in grasping is remarkable, and should be daily noticed.

Twenty-third week. When the infant, who frequently moves his hands aimlessly about in the air, by chance grasps one with the other, he watches attentively both hands, which are often casually clasped.

Twenty-fourth week. The child fixes his eyes for several minutes upon a glove which he himself holds in his hands, and changes the fingers which grasp it.

Thirty-second week. The child, while lying on his back, often looks at his legs stretched upright, and more especially at his feet, as if they were something not belonging to him.

Thirty-fifth week. In every possible position the child tries to seize one foot with both hands and put it in his mouth, and frequently succeeds. This apish movement seems to afford him peculiar pleasure.

Thirty-sixth week. The hands and feet are no longer watched so frequently without special cause. His gaze is attracted by other new objects, which he attempts to grasp.

Thirty-ninth week. When in the bath, the child sometimes looks at and touches his skin with evident delight, and sometimes gazes at his legs, which he bends and stretches in every direction.

Fifty-fifth week. The child watches attentively, for a long time, a person who is eating, and follows every movement with his eyes; reaches out towards the person's face, and looks at his own hands after striking his head. He likes to play with others' hands and takes delight in their motions, evidently comparing them with those of his own fingers.

Sixty-second week. He gazes continuously at his own fingers, and plays with them as if he would tear them out. One hand is pressed by the other flat upon the table, so hard as to cause pain, as if it were a strange plaything, and is constantly looked at with an air of wonder.

Thereafter the child's inclination to watch the parts of the body noticeably abated. He knew them by their form, and had gradually learned to distinguish them from extraneous objects as parts of himself; but by no means had he as yet reached the thought, "The hand is mine, what was taken hold of is not," or "The leg belongs to me." The fact is that from two causes the child has become used to these perceptions of sight and touch, and overlooks them in using his hands and feet: first, they always recur combined in the same way; and second, the visible parts of the child's body no longer excite the visual centre so strongly, in consequence of frequently repeated observation. He does not as formerly consider his feet and hands unusual, while every object which he touches, sees, or hears is interesting and strange to him. In this way arises the definite distinction between object and subject in the child's intellect. At first the child is still new to himself, that is to say, to the apparatus of ideas which is developed only after birth; later, after he has learned to know himself, and no longer looks upon himself as something novel, he has an obscure sense of the Ego, and acquires the notion of the Ego through further abstractions.

The progress of the intellect in watching the reflected image confirms this conclusion. The child's demeanor towards his image points out unmistakably the gradual growth of self-consciousness from a state in which objective and subjective changes are not yet distinguished. A child that in the ninth week laughed at his image in the glass was undoubtedly in the latter state, and his laughter was caused by the brightness of the glass. Another child laughed when he saw himself in the glass in the twenty-seventh week. These cases were observed by Sigismund.

Darwin observed (1840) of one of his sons, that in the fifth month he repeatedly laughed at the reflections of his father and himself in the glass, and thought them real bodies. But he was surprised that his father's voice came from behind. "Like all infants, he much enjoyed thus looking at himself, and in less than two months perfectly understood that it was an image; for if I made, quite silently, any odd grimace, he would suddenly turn round to look at me. He was, however, puzzled at the age of seven months, when, being out of doors, he saw me on the inside of a large plate-glass window, and seemed in doubt whether or not it was an image. Another of my infants, a little girl, when exactly a year old, was not nearly so acute, and seemed quite perplexed at the image of a person in a mirror approaching her from behind. The higher apes which I tried with a small looking-glass behaved differently: they placed their hands behind the glass, and in doing so showed their sense; but far from taking pleasure in looking at themselves, they got angry and would look no more."

The first-mentioned child, at the age of not quite nine months, associated his name with his image, and turned towards the mirror when his name was called, even when it was at no small distance from him. At first, when recognizing his image, as in recognizing others, he exclaimed "Ah!" as grown people are wont to do when astonished.

I made the following observations of my boy: —

In the eleventh week he did not see himself in the mirror. When I knocked against the glass he turned his head in the direction of the sound, but his image did not make the slightest impression upon him.

In the fourteenth and fifteenth weeks he looked at his image with perfect indifference. His glance was directed towards the eyes in the image, without any expression of pleasure or displeasure.

In the sixteenth week the mirror was still either ignored or regarded with indifference.

At the beginning of the seventeenth week, on the one hundred

and thirteenth day, the child looked at his image with unmistakable attention, and his countenance wore the same expression with which he was in the habit of gazing at a strange countenance. It was evident that he observed himself for the first time, but the impression seemed to awaken neither pleasure nor displeasure. Three days later the child positively laughed at his image.

When I held the child before the mirror again in the twenty-fourth week, he saw my image, became very attentive, and turned suddenly to me, apparently to convince himself that I was near him.

In the twenty-fifth week he for the first time stretched his hand towards the image, thinking he could grasp it.

In the twenty-sixth week it pleased the child to see me in the glass; he turned towards me and compared the original with the image.

In the thirty-fifth week the child reached out towards the image with eagerness and interest, and was astonished when his hand touched the hard, smooth surface.

This continued from the forty-first to the forty-fourth week; the child regularly laughed at his image and tried to seize it.

All these observations were made before a full-length mirror. But in the fifty-seventh week I held a hand-glass close to the child's face. He looked at his image and then put his hand behind the glass, moving it about as if in search of something. He next took the glass himself, looked at it, and touched it on both sides. When I held the glass before him again after several minutes, the same manœuvres were repeated. This agreed with the observations made by Darwin on anthropoid monkeys, which I have mentioned.

In the fifty-eighth week I showed the child his cabinet photograph under glass in a frame. He turned the picture about like the hand-glass. Although the photograph was much smaller than the reflected image, they seemed to him to be alike. On the same (four hundred and second) day, I again held a hand-glass before the boy, showing him his image; but he obstinately turned away, again like an intelligent animal. Here the incomprehensible in a literal sense was troubling him; but very soon came the insight which the quadruped lacks. In the sixtieth week the child saw his mother in the glass, and when asked, "Where is mamma?" pointed to the image, and then turned laughing to his mother. Whereas the child formerly made cunning mistakes, there is no doubt but that at this age — fourteen months — the original and the image were distinguished as such, and the photograph no longer excited surprise.

Nevertheless, even in the sixty-first week the child tried to touch his image, and licked the glass in which he saw himself, and also in

the sixty-sixth week struck it with his hand. In the following week I saw the child making faces for the first time before the glass, and laughing at it. I stood behind him and called him by name. He immediately turned round, although he saw me plainly in the glass. He evidently knew that the voice did not come from the image.

In the sixty-ninth week signs of vanity were perceived; the child frequently took pleasure in watching himself in the glass. If any one placed something on his head and said "pretty," his expression changed and became peculiarly self-satisfied, his eyebrows were lifted, and his eyes were dilated.

In the twenty-first month the child put on a piece of lace or embroidery, let it hang from his shoulders, looked around as it trailed, stepped forward, and then stood still, intent on making new folds in it. Here monkeyish imitation and vanity are mingled.

In the seventeenth month the child showed a predilection for standing before the glass and making grimaces; these experiments with the mirror were therefore discontinued. They point out the transition from the condition in which the infant cannot see clearly, and has no feeling of self, to that of the developed Ego which consciously distinguishes itself from its own image, as well as from other people and their images. But there is for a long time a certain cloudiness in respect to pointing out objects. In the twenty-first month the child laughed at his image and pointed to it when I asked, "Where is Axel?" and to my image when asked, "Where is papa?" But when questioned seriously, the child turned about with a doubtful air. One evening I placed a large mirror near my child's bed when he was asleep, in such a position that he should look in it immediately on awaking. He saw his image directly after he awoke; appeared greatly astonished by it; stared at it; and when I asked, "Where is Axel?" he pointed, not to himself, but to his image (six hundred and twentieth day). In the thirty-first month it still gave him great pleasure to watch his image, and he laughed at it continuously and heartily.

As is well known, animals conduct themselves quite differently in this respect. A pair of Turkish ducks kept themselves quite apart from other ducks. When the female died, to my astonishment the drake betook himself to a cellar window in which could be seen his reflection, and stood there daily for hours at a time. He evidently thought his image was his lost companion. A young cat before whom I held a mirror seemed to take the image for a second cat; for when the mirror was raised, she went behind and around it. Many animals are frightened by their images, and run away.

The discovery of their shadow also causes fear to little children. At first my child showed signs of fear at his shadow, but in the fourth year took delight in it, and to the question, "Where does the shadow come from?" gave this remarkable answer, "From the sun."

All these steps in advance, which can be followed separately only with great care, constitute converging lines which culminate in a perfect sense of the definiteness of personality and its limitation by the external world.

Such are the results which pure physiological observation gives. But such observation has not the additional power of combining a unity or indivisibility or uninterrupted permanence in the child's Ego with the facts which I have established with great certainty and recounted in this chapter.

What is meant by saying, "The child's feet, hands, and teeth seemed like strange toys to him," and "The child bit his own arm as he was in the habit of biting unknown objects"? "Seemed" to what? What in the child "bites"? The subject in the head is evidently different from that in the body. The Ego of the brain is different from the Ego of the spine. The former sees, hears, tastes, smells, and feels, the latter only feels; and both are at first quite distinct, so long as the brain and spine are only slightly associated organically, and not at all functionally. Brainless infants, which have lived for hours and days, could suck, scream, move their limbs, and feel; which is proved by the fact that if hungry, they stopped crying when an object suitable for sucking was placed in their mouth. On the other hand, if a human being could be born with a brain and without a spine and live, it would not be able to move its limbs. Accordingly, if a normal infant plays with its feet or bites its arm, therein lies a proof of the independence of the brain with its perceptive apparatus from the spine. And in the fact that brainless new-born human beings and animals move their limbs, scream, suck, and act reflexively like sound ones, lies the proof of the original independence of the spinal functions from those of the brain.

But unquestionably even the brainless living child, which sucks, screams, moves its arms and legs, and distinguishes pleasure from pain, has an individuality, an Ego. Accordingly, two Egos must necessarily be assumed in the child which has both brain and spine, and imagines that its arms are to be tasted and bitten. But if two, why not more? At first, when the centres of sight, hearing, smell, and taste in the brain are as yet imperfectly developed, each one perceives for itself, since perceptions in the different departments of the senses are not connected with each other. In the same way the

spine does not share with the brain, or at least very imperfectly, what it feels, as for example a pin prick; for new-born children do not usually react under such circumstances. Only after frequent and simultaneous occurrences of different sense impressions, such as tasting and touching, seeing and touching, seeing and hearing, seeing and smelling, tasting and smelling, hearing and touching, are the intercentral connective fibres developed; and then for the first time can the different centres of representation — makers of the Ego, as it were — lead to the formation of the unitary Ego, which is quite abstract, just as they lead to the formation of the ordinary idea.

This abstract notion of the Ego, which is peculiar to the thoughtful adult, arises only as other notions arise, — namely, through single representations from which it results; as for example, there is a forest only when there are trees. The Egos, subordinated to the separate departments of the senses, are not as yet blended in the little child, because it still lacks the necessary power of abstraction. On account of the small number of cerebral connective fibres, a single excitation cannot be accompanied with an excitation of the sensory centres, on which as yet few impressions have been made by the memory.

The special conceptions given by the various senses have the common attribute that they are only brought about in time, space, and causality. This analogy presupposes similar processes in each sensory centre of the highest order in the brain. Excitations of one of these centres easily cause similar accompanying excitations of centres which have frequently been excited together with them by means of objective impressions; and it is this similar accompanying excitation, extending over the brain centres of all sensory nerves, which occasions the united conception of the Ego.

The Ego, according to this view, cannot be unitary, indivisible, and uninterrupted. It is present only when the separate senses from which it is abstracted and their Egos are on the alert. It disappears, for example, in dreamless sleep. Ordinarily it is present when the centro-sensory excitations appear most strongly; that is, when the attention is exerted.

But the Ego is still less a sum, for that presupposes an interchangeableness of the component parts. The place of the seeing Ego can be filled by another Ego just as little as that of the hearing or tasting Ego can be. The sum of the separate leaves, blossoms, stems, and roots of a plant is far from making the plant. They must be combined in a peculiar manner. So it is not enough to add the common characteristics in the separate sense conceptions, in order to obtain the regulating and controlling Ego. There results rather, from the

increasing quantity and variety of sense impressions, a constant growth of the gray substance in the child's brain, a rapid increase of intercentral connective fibres; and in this way accompanying excitations, called association, are facilitated, which unite sensation with will and thought in the child.

This union is the Ego; the perceiving and feeling, longing and willing, observing and thinking Ego.

THE MACHINE IN EDUCATION.

BY PROF. N. M. WHEELER, LAWRENCE UNIVERSITY, APPLETON, WIS.

THE American variety of the human species might be fitly characterized as the man who works with a machine. Great is the Yankee's faith in combinations of wood and iron, geared together, and provided with self-acting feed attachments, regulators, indicators, and what not. Does a demand arise for any given result, be it in the haunts of toil or in the fields of fancy, be it the product of the factory or the fruit of intellect,

"He 'll make the thing, and the machine that makes it."

This machine spirit is, from one point of view, *the* phenomenon of the age. The age has an insatiate demand for "methods." Everybody believes he can do anything, if only he can adopt the very latest improved "method" of some other body, be it in making shoes or in conducting a revival, painting a picture or running a campaign.

But there are things which no machine can fashion, there are results which will come from no mere "method," there is work unto every moment of whose endurance must come the patient hand, and there are products which are of no value unless brains were mixed in the making. It is to point out some encroachments of the machine spirit on education that I address myself.

I shall consider: I. Organization. II. Government and Discipline. III. Instruction.

I. ORGANIZATION.

In the organization of schools, of systems of supervision and control,—city, county, State, and national,—the age is unique. Turn to any statistical report, any encyclopædia, every place or country is described as having a "system" of education, more or less perfect.

Unhampered by traditions, in a virgin soil, the newer States and communities are in position both to profit at once by the completed results of the toils of many before us, and to make experiments. Their danger is that they forfeit the advantage of their position by assuming burdens unfit for their immaturity; forgetting that the law of nature is development, not adoption, and fancying there is virtue in high-wrought and logically perfect "systems" of themselves.

We *must* have organization? Doubtless, much of it, much more than we have. There is a wide field for purely mechanical appliances in the management of education, private or public.

But none of these things are education, — they are not even the essential conditions of true education, — else were all the past wofully uneducated ; and no one can be more short-sighted and self-deceived than he who expects the regeneration of society and the development of national character to come out of these things. It is poor wisdom that deceives the great and careless public into a blind reliance upon any system of organization and administration, however perfect on paper, and however hearty and intelligent the zeal that is endeavoring to realize the scheme.

I recognize the disheartening fact that there is a kind of practical necessity in the case, which makes ideal results impossible. I know that the public school must always be largely a machine ; that it is and must be framed for averages ; that the individual must suffer in its operations ; that there is necessity for its rigid rules, its hard and galling mechanism, and wisdom in that effort to lift up above their purposed endeavor the unwilling and uninspired pupils, which bring such a drag upon its working.

Yet there are certain very obvious evils connected with the graded schools, which must be pointed out again and again. The ungraded schools are not fairly subject to criticism under this head.

Let us only hope that in bringing into use the "course of study" recommended in many quarters, great tact may be exercised to avoid the evils suffered already in the graded schools. Chief of these is the ordinary system of promotion. The characteristic of machinery is that it cannot take account of the exceptional. But in school work, in young communities more particularly, the exceptional is the rule No system that depends solely or mainly on time, no plan that makes examinations and class standing the sole criteria, however frequent the quizzing, however ingenious the scale of marks, can furnish an adequate test of fitness for advancement. The free judgment of a competent teacher is worth them all, not only in point of justice, but in likelihood to secure the real ends of school labor. And here we touch the root of all evils connected with graded schools. The tendency of all devices is to obscure the *end* of effort. The great need of every school is that its head and all his helpers shall be continually asking and answering that hard question which the hard-headed public *will* ask, What is the *use ?*

II. Government and Discipline.

When we enter the realm of discipline, and begin to consider that wide field of education that has to do with the moral nature, manners, and habits, we are less struck by the perception of failure, simply because so little is attempted.

Can a code of rules transform a boy's heart? Can any number of marks develop refined manners? Can infinite reportings to the principal eliminate stubbornness, or eradicate sloth? Can any elaborate system of reprimands, suspensions, and expulsions strengthen the weak will, waken the dormant power of self-control, train the wayward sense of honor? Never!

Yet are not good and conscientious teachers daily laboring at this hopeless task? and are they not shut up to this futile endeavor by the necessities of the "system"? Moreover, it is easier to fall back upon a code of rules than to solve a moral problem; it costs less of heart pain and nerve weariness to send the erring one to the distant seat of awful authority in the principal's room, or the superintendent's office: and then, the overworked teacher has not the time. I suppose, from my personal experience, that quite half of the boys and girls in our schools are not really "nice." From our thrones on the rostrum, we see in every corner stupid faces, leering and repulsive brows, sensual mouths, the sour and unhappy, the cold and indifferent. Will a machine system of government make good and happy young men and women out of this material? *Does* it? Is there not a growing army of vicious, disrespectful, tainted children in every town and village, — not truants and stay-at-homes, but legitimate products of the public school? Is this the best attainable, fellow-teachers?

The moral nature cannot be reached thus. Personal care, often enough painful and laborious, heart-ache, anxious thought must be lavishly contributed by the teacher, if he expects to do his whole duty. You must have rules? Doubtless; but you must not depend upon *them* to quicken the dull sensibilities, search out the secret source of bad temper, chasten away the impure thought, make the child as nearly as possible what it might have been if evil had not thwarted the good design of God in its birth.

Machine discipline cannot train the growing nature, but it can secure two things to which a vastly exaggerated importance is attached by some: it can secure stillness and outward obedience. This kind of thing is held up for our admiration and helpless envy. To this Sahara of paralyzed enthusiasm, of blunted interest, and of extinct curiosity, we are to look for the sweet fruits of culture. Shades of the great and glorious teachers of the past — men bursting full of living force, resonant with ringing enthusiasm, charged high with the leaping electricity of knowledge — rise and rebuke this absurdity, this emasculated and benumbing tyranny of the non-essential!

But these things tell on the community. Teachers who do these

things are spoken of with great respect. Herein lies a great temptation. These things, hard as they are to accomplish, and great as is the waste of time and energy spent on them, are easier to attain than is true education, — the rapid, joyous communication of real knowledge, the kindling of the child's whole nature, its wise and judicious direction in the proper course, the contact of mind with mind, of heart with heart, — and these things can be seen and admired of men much more than the true process of growth.

For myself, I own with abasement I never could treat living flesh and blood as if it were mere plastic clay. Childhood to me has sacred rights. Rather would I fail in many technical details than do aught to stifle budding originality or suppress individuality. Rather would I choose many mistakes in facts if I could be sure that healthy thirst for knowledge, vigorous intellect, keen perception, and strong love of what is beautiful and good should be found in all who have called me teacher. The object is more than all the means. Perfection of detail too often means loss of true advantage. Yet I believe neither need be lost. There is a more excellent way.

III. Machine Methods in Instruction.

This is the main point; for teaching is, after all, what all systems are for. Organization, government, discipline exist because of, and ought to be modelled by the necessities of, the teaching; and it is when they are not so directed and fashioned that they become obnoxious to our criticism. But the machine has gotten far into the work of teaching itself. Let us be specific here. Mere text-book grinding, parrotism, book-in-hand recitation hearing, cramming unappreciated facts, — these absurdities we have all renounced in theory, and most of us avoid in practice. I do not mean these, but other phases of the machine in more pretentious guise.

Any idea in education, however good, may be made mechanical in operation, and most ideas have suffered that fate. Our schools, our best schools, are full of tag-ends of the so-called "science of education," scraps of "systems," bits of new "methods," caught from some much bepuffed "manual" of teaching, carried home as treasures of great worth from a brief sojourn in some normal school. There is a demand among teachers for the latest new-fangled "method," and a continual rivalry among publishers to introduce their latest patent protected system of something or other. All this is no sign of progress. It is sure evidence of the machine spirit. It seems to be peculiarly characteristic of this mechanical age to seize upon every

new suggestion, fruitful in itself, to reduce it to drill-master routine, and to run it at high pressure.

The essential difference between true teaching and machine teaching is that there is individuality in the former. Its ways and means are not servile copies from another, but are evolved from the inner sources, are devised for the occasion. "Principles are eternal, methods are not."

If you will think of it, there is a wonderful amount of machine work in our best teaching: analyzing problems *ad nauseam;* parsing by model; insisting always on complete sentences; the exhaustive study of diacritical marks; giving back the question in the answer; dreary reading and rereading of a passage that never meant much, to get the exact shade of inflection; much care for the pronunciation of ă and thŭ, rather than for the meaning; vain repetitions daily of long formulas called rules, as the only logical justification of every fresh occurrence of a familiar fact in language; object lessons cut and dried beforehand and doled out in the inane imitation of baby-talk, or senseless adoption of fragments from some kindergarten manual, under the impression that we are following in the footsteps of Pestalozzi and Froebel; forcing children's talk into the stilted formula of the text-book, forgetting that for school use, clay is better than marble,—these are a few examples. Wherever the school-boy, when helped at home in his lessons, merely grows befogged and says, "That is not the way our teacher does it"; wherever the pupil gladly escapes from his Latin and Greek; wherever the standard argument for a specified course of study or for the ways of an individual teacher is that they are "valuable for discipline,"—there you may be sure the machine is in full operation.

The gist of Grant White's criticism on our public schools, so far as it pertained to the results of instruction merely, was just this: That the schools were drifting from their true aim; that, given up to machine formulas, managed here by devotees of impractical system, there by immature reliers on new copyrighted methods hastily acquired at institutes and normal schools, they failed to produce that solid and tangible familiarity with primary knowledge that was once their sole aim. This, too, is the residuum of truth in the Norfolk County report. This is the significance of the Quincy idea, which is making such a stir among us. For teachers, the lesson of Quincy is summed up in what Superintendent Parker says: "My main reliance is in slowly leading teachers to understand the principles of teaching. If principles are understood, methods will take care of themselves." This, too, is the meaning of that fresh tide of energy

in the language teaching of our colleges, which begins to send its influence down into the high schools; which will erelong, I trust, sweep away the last remnant of that kind of teaching whose ideal was to ask seventy-six questions on the first three lines of the "Anabasis" and one hundred and twenty upon the first three lines of the "Æneid," and will forever deliver us from what Prof. Fisher, of Yale, calls "the 'gerund grinders,' who pretend that there is no such thing as thoroughness apart from their pedantic methods."

These ideas are none of them new. Indeed, some of them are the oldest in pedagogy. They are the ideas of Plato, of Comenius, of Ratisch, of Ascham, and of John Locke. It is one of the functions of great ideas now and again to break up the dead formalism into which things *will* fall. And it is a great mistake to suppose that what I call machine methods cannot produce very brilliant results. A skilful and energetic teacher can get a school into a fever of excitement by cooping words and phrases into little boxes, or wake intense enthusiasm in the endless repetition of "If John bought two pencils and three pencils, he bought the sum of two pencils and three pencils, which are, etc. Therefore, if John," etc.; hard and long application to what some people call "drill" will make a boy take an unmistakable pleasure in chasing a fugitive vowel through all the hiding places of Greek euphony; and months of such and similar perversions of mental faculties will enable a school to present the chance visitor a wonderful display of apparent knowledge. The more the pity: does it pay? do scholars trained in this way acquire culture? What is culture? Consider the word. Culture is preparing the ground that something may *grow* there. Are the sweet flowers of refinement and literary taste, the precious fruits of sound and independent thinking, to be expected from ground trodden down by the incessant hoof-beat of such drill? I suspect a great fallacy in that word "discipline." I imagine we shall yet recognize that to make discipline the prime object of any study is to commit a palpable absurdity. Soldiers are not drilled for the sake of drill, but to make good soldiers. No discipline can be worth acquiring which is not acquired while on the way, and as a means, to some higher and better object.

If I have at all made clear my criticism on certain prevailing tendencies, it will be seen that the remedy I would propose is a very old one, — to lay greater stress upon the individual. The individual teacher and the individual scholar, — these are the fundamental elements. Yet this is easily lost sight of.

What has made the great schools of the world? Their teachers. Why did Rugby send an influence through the English-speaking

world? Because Arnold was there. Looking back to our earlier years, what do we recognize as having made us what we are? Not some famous school which we attended, not certainly some peculiar method,—even though method there was, and we still feel its influence,—but some man or woman who was *in* that school, who used that method, was behind it, and, greater than all the mere surroundings of his craft, impressed himself upon us. This element of school life, this "send-off," or impulse, without which we fail to utilize all the rest, we are losing, have already lost to a great degree. The district schoolmasters of the last generation, with all their faults and absurdities, had more personal power and pervasive influence than the well-equipped and systematic teacher of the present, who is too often merely an appendage to a machine.

The inevitable propensity of the human mind to seize upon the form to the neglect of the real is as fatal in teaching as in literature or religion; and machinism is as hurtful when it lurks in Grube's method, or when it lies behind the phonic and word method, as when it is embodied in the old alphabet and multiplication-table sing-song. It is as bad and less hopeful, when teachers worship the fetish of the object method, and the synthetico-inductive process, as when they give homage to mere *memoriter* task-work.

Individuality in the pupil is a result which would follow normally from a perfect system of education. That it is now rather the exception than the rule, is a bodeful sign of the tendency and value of our methods. The fact that comparatively few great men are now the fruit of "regular" training, that most of them come up some other way, is one of great moment to every educator. Who has not seen a pupil enter school, who has been taught at home till ten or twelve, full of originality, with curiosity intense, mind all awake, still retaining the quaint and expressive language of childhood, keen for the fact, careless of the form, bold in opinion, eager in expression? and who has not seen such a pupil, after two or three years of "drill," hesitating, timid, painfully accurate, dreadfully slow, the intellectual "go-ahead" all gone out of him? This is mental murder, a crime of the deepest dye. The majority of children's minds are hopelessly spoiled by their first three years in school. Get those three years right, and we can afford to take great chances thereafter. It is the recognition of this fact that gives such immense importance to primary instruction. And yet able school boards hire flabby-minded girls at $300 a year to teach at this end, and cultured men at $3,000 at the other; and an intelligent community thinks this is economy. What but intellectual dry-rot can be expected from such absurdity?

I believe there has been and is an overweening confidence in the efficacy of our education, public and private. I believe we have deceived ourselves and tricked the public with words. I see in the public prints the repeated expression of a growing distrust. I hear in the talk of men and women in their homes the voice of a spreading disappointment. I look for an awakening of public thought. In the eager interest with which attention turns to the few places where something really satisfactory seems to be doing, I discern the symptom of an anxiety which is not to be allayed. Reality must take the place of factitious and overestimated standards. Originality of nature must be sedulously preserved. Individuality in teacher and in pupil must be made an essential element in all instruction. The machine must give way to the intelligent adaptation of natural means to a well-defined end, under the guidance of principles established by a scientific process. Teachers must be selected and retained primarily for natural fitness. They must have generous culture; they must daily refresh their minds at the fountains of thought. They must mingle with the world and watch the world's ways. They must be more than mere teachers; they must become artists in human souls.

THE PRACTICAL.

THE popular war-cry among the mass of teachers, preachers, editors, and people generally, is "practical." Practical arithmetics, grammars, readers, and books of all kinds are in demand. Teachers at educational gatherings are hungering and thirsting for the practical. The profession of teaching has fairly run mad in search of the royal road which leads to the practical. If an educator succeeds in securing in his school results which commend themselves for their exceptional excellence, forthwith the school becomes the Mecca of educational pilgrims, who go, see, and ask how these things have come to be as they are; they want to know how to do them; they notice this teacher do this, and another do that; they go home informed and do the very same things, as they suppose, — and fail. Why? The answer is contained in the familiar anecdote told of a celebrated painter. A young man viewed with great delight the productions of the artist's skill in coloring. Being of a practical turn of mind, he asked the painter how he mixed his paints to produce such effects. Said the practical artist, "I mix my colors with brains." This reply contains whole volumes of commentaries upon the conception of the practical which is entertained by the masses of those who hasten with bated breath over the wide fields of observation in search of the talismanic "how to do it." In the above-recited tale, the young man was practical; the artist was practical; but their conceptions of practical were as wide apart as noonday light from midnight darkness. The one man desired to shine in the light of skill shed upon him by another; the other was illuminated by the light which proceeded from his own profound knowledge of the principles and practices of his art. The old maxim says, "There is no royal road to learning." In these days of longing and of professional unrest, the phrasing should be, "There is no royal road to the practical." The painter mixed colors with intellectual acumen; the schools that become Meccas are taught by brains, recondite philosophy, and efficient motives. There is nothing practical which does not rest in fact upon solid philosophy, discovered either by profound research or by intuition. If discovered by intuition, only the favored few who are to the manor born can hope to possess the truly practical; if discovered by study, the principles which underlie the practical can be attained by the masses, but only upon persistent and intelligent application. Michael Angelo did not see angels in rude and unhewn blocks of marble by inspiration, but by brains; Von Bülow causes his audience to listen to an entire orchestra discoursing Beethoven's symphonies while he sits alone before his piano; this is done not by inspiration, but by brains, — by his knowledge of the science and art of music. Webster was practical because he was learned in the principles of his profession. Sumner was practical because he legislated laws with brains. It is folly to look for the highest conception of the practical without knowledge of the science of that which is to be put into practice. The real cause

why sentimentalism and charlatanism prevail so extensively in the profession of education is because teachers float from one manner or mode of practice to another. Any teacher whose practice is not founded upon solid science must be like a buoy whose chain is so short that the weight cannot anchor the buoy in the sands; such a buoy is here to-day and there to-morrow, as winds and currents sway it. A buoy floating its weight is not a type of signals that are to be placed upon a rocky shore, notwithstanding it looks safe for the present time; it is not a practical certainty. The practical is sound intelligence in effective motion. The practical has its foundations in esoteric principles of mind and matter in, and systems of, philosophy; these should be applied intelligently to the work that is to be done. Teachers who observe only the exoteric rites and ceremonies of good teaching are writing their names upon the scroll of fame which fades with to-morrow's sun.

AN INNOVATION IN COLLEGE GOVERNMENT.

THE faculty of Amherst College has made the suggestive proposition to the students that certain matters of discipline and control in the administration of the college be relegated to a sub-board of managers composed of four seniors, three juniors, two sophomores, and one freshman, a member of the faculty acting as chairman. The plan falls upon the ear of the masses as being a very desirable change in the form of college administration, for young men will be taught practical government; they will be led to comprehend more fully the sense of patriotism. The theory of this proceeding appears to be in harmony with the genius of the institutions of our country. The premises of this last proposition will bear investigation before they are accepted by an American people. In general, a college is a corporation whose management and control are vested in a body of trustees, with whom reside the legislative, judicial, and executive authority. This board employs a faculty, the president of whom is usually *ex officio* trustee. The authority which the members of the faculty, including the president, possess, is only that which the board has delegated to them as a faculty. The students enter the college under the general rights of implied contract with the corporation of the college; they are quite independent of the faculty, except as the contract defines their relations; they can appeal from decisions of the faculty to the board of trustees, and even to the courts. The case sums thus: The faculty is employed to discharge towards the students the obligations which the board of trustees, representing the college corporation, vests in them towards the students with whom the corporation has entered into an implicit contract. Now the employés of the board propose to invite the second parties to the contract to help administer the very affairs in which they (students) are beneficially interested; that is, the faculty propose to allow students to administer on affairs which exist between the corporation and the students

themselves. Much of this administration is judicial in its nature; hence the students would become judges in affairs in which they are immediately interested under implicit contract. This position subverts the theories of American legislation and jurisprudence. Besides, waiving the above point, what will be gained by the innovation? Will the students as a body gain more acquaintance with the affairs of the nation, of state, or of a municipality by sending a few representatives into the councils of the faculty to assist in administering upon matters in which they are clothed with no authority whatever? for the board of trustees cannot transmit powers of original jurisdiction to committees and agents. The students who should accept the responsibility of pronouncing the judicial acts which disciplinary matters necessitate would assume a risk of being censured by the other students and by the public; they would be utterly powerless to withstand the adverse opinions, because they are endowed with no adequate authority to enforce their decisions. The innovation appears calculated to establish an artificial relationship between a few of the students and the faculty, and between a few students and the great body of them. If the experiment should succeed and the practice become permanent, it does not appear that any additions to educational principles are to result from it. Besides, would the practice, if inaugurated, be highly complimentary to the conservative dignity which Amherst enjoys so fully among the colleges of the United States? Is there not a color of sensationalism about the proposed scheme which hardly becomes this renowned institution?

SCHOOL-CHILDREN AS MESSENGERS.

In the city of New York, a teacher in the public schools recently allowed a child to seek the home of an absent pupil in order to learn the cause of the detention. The child, a little girl, entered the home of the absent schoolmate who was prostrated by diphtheria. The little girl returned to school and reported the nature of the sickness to her teacher. A few days subsequently the little girl became suddenly ill in the class room and was not permitted by the teacher to go home until the close of school hours. She was prostrated with a very severe form of diphtheria. These circumstances are explained by the superintendent of the public schools of the city, who says that "teachers are absolutely forbidden by the rules of the department to send a pupil out of school between nine and three o'clock. After school they have no more right to send a child on an errand than at any other time. In this case the little girl may have volunteered to go. Every child in a class is interested in keeping up the percentage of the class. If a child is absent, all in the class desire to know why their schoolmate is absent, because it lowers the class percentage, and any one of them is glad of an opportunity to stop at the house on the way home."

The question instantly arises, why should any system stimulate children by such motives? Schools are institutions for transacting business; children

are elements of the society in which they move; the influences which pervade the school-room are artificial unless they are those which prompt society at large. Children should be stimulated only by those incentives which experience approves for adults. Why should teachers teach to children an arithmetic which would be useless in the counting-house? It is a matter of the gravest moment that the influences and motives which teachers introduce into the school-room should be inspected by the public. Instead of sending pupils as messengers, it would seem to be a better way to place in the hands of properly constituted officers the matter of calling at homes to inquire for absent pupils. In London, pupils may be sent, under limitations, but they are allowed tuition rates for the time spent in doing such errands.

TRUTHFULNESS IN CHILDREN.

A LADY of extensive experience in teaching asked this question: "Do children naturally tell lies?" A state superintendent of public instruction closed an exhortation to a body of public-school teachers with the sentiment that their highest study is to be true to themselves. These two incidents introduce the following examination.

It is usually held that intention determines the character of an act done by a responsible human being. Among the native faculties of mind is that of self-love. During all the years of conscious existence, human life vibrates in its actions between the self and the neighbor. The child comes first by instinct and intuition to the rescue of itself; then its wants dawn upon its consciousness; subsequently the consciousness of self-existence and of wants becomes strong and clear; later, the teachings of society direct the attention of the child to its duties towards its fellows. The forces of child nature are now fully enlisted in battle array in the mind of the child. The struggle arises between serving itself and serving others at the expense of self; for herein lie benevolence, civilization, and religion. In the mass of children, the strength of self-love is greater than that of self-sacrifice, or benevolence, which is self-sacrifice in its higher degrees. Place the child who is in this stage of moral growth under temptations which present strong appeals to serve self, and what will naturally result? The term which is commonly applied to the actions of the child under temptation, when it decides in favor of its own interests exclusively and against the moral standards of society, is that it lies or deceives. Instead of telling a lie, however, the child has acted its self-love spontaneously and has been only true to itself; it has not told a lie, when adjudged from its own standpoint. Society has established standards of conduct which the child does not fully understand, or which it forsakes in order to be true to its own conceived interests when under great trials. The words and actions of the child may be lies, when judged by the standards of morals of society. Hence the child must be taught those standards which society has estab-

lished as true or false between man and man, and to which it must conform its own conduct. The infantile conception of truthfulness is never passed in practice by multitudes of adult people, who are therefore liars, because they know the standards by which their actions should be directed. Besides, this stage of self-love is much stronger when exercised about some things than when active about other matters. In school affairs, pupils of average attainments too seldom rise above the notion that to plagiarize in essay writing or to do acts which are undetected by the teacher involves no elements of high responsibility to them. Some entire nations are like children who make the creations of their imagination the standards which they follow. Such nations can be trusted but little by the nations that conform in conduct to other and higher notions in relation to falsehood and truth. These fundamental truths relating to childhood reveal the scope of the educator's work.

The matter of punishments is connected with this subject. Suppose that a child has no clear idea of the standard which is set before him by the teacher, what is the duty of the teacher towards the child? Not to punish it for disobedience, but to teach it the significance of right and wrong by direct instruction. It is shocking to contemplate severity with children who are not conscious of wrong; such harshness is revolting. Children do not lie when they are true to their own interests, as conceived from their own infantile standards of conduct; they do lie, under these circumstances, when judged by the high moral standards which religion and enlightened morality have set up. When teachers, in their practice, regard their own interests as paramount to the higher and profounder interests of society, it becomes the duty of society to protect itself against the dangers which lurk in the false motives that prompt the policy of its educational servants. Legal history shows that truthfulness, as a mark of progress in morals, has been one of the very latest products of civilization. The teacher who instructs his pupils that the highest purpose in life is to be true to themselves is one whose conception of the province of morals belongs to the infantile periods of the history of the race.

EDUCATION AND CIVIL-SERVICE REFORM.

CIVIL service is discussed by President Arthur in his message to Congress. His views are shown in the following excerpts from the message: —

"No man should be the incumbent of an office, the duties of which he is for any cause unfit to perform; who is lacking in the ability, fidelity, or integrity which a proper administration of such office demands. . . . It seems to me that the tests that should be applied to the management of the public service may properly conform in the main to such as regulate the condition of successful private business. Original appointments should be based upon ascertained fitness. The tenure of office should be stable. Positions of responsibility should, so far as practicable, be filled by the promotion of worthy and efficient officers. . . . The measure which, with slight variations in its details, has lately been urged upon the attention of Congress and the Executive, has as its principal feature the scheme of

competitive examination. Save for certain exceptions, which need not here be specified, this plan would give admission to the service only in its lowest grade, and would accordingly demand that all vacancies in higher positions should be filled by promotion alone. In these particulars it is in conformity with the existing civil-service system of Great Britain; and indeed, the success which has attended that system in the country of its birth is the strongest argument which has been urged for its adoption here. The fact should not, however, be overlooked, that there are certain features of the English system which have not generally been received with favor in this country among the foremost advocates of civil-service reform. Among them are: *First.* A tenure of office which is substantially a life tenure. *Second.* A limitation of the maximum age at which an applicant can enter the service, whereby all men in middle life or older are with some exceptions rigidly excluded. *Third.* A retaining allowance upon going out of office. . . . The avowed purpose of that system is to induce the educated young men of the country to devote their lives to public employment by an assurance that, having entered upon it, they need never leave it; that after voluntary retirement they shall be the recipients of an annual pension. That this system, as an entirety, has proved very successful in Great Britain, seems to be generally conceded even by those who once opposed its adoption. To a statute which should incorporate all its essential features, I should feel bound to give my approval; but whether it would be for the best interest of the public to fix on an expedient for immediate and extensive application which embraces certain features of the English system, but excludes or ignores others of equal importance, may be seriously doubted even by those who are impressed, as I am myself, with the grave importance of correcting the evils which are inherent in the present methods of appointment. If, for example, the English rule, which shuts out persons above the age of twenty-five years from a large number of public employments, is not to be made an essential part of our system, it is questionable whether the attainment of the highest number of marks at a competitive examination should be the criterion by which all applications for appointment should be put to test; and under similar conditions it may also be questioned whether admission to the service should be strictly limited to its lowest ranks. There are very many characteristics which go to make a model civil servant; prominent among them are probity, industry, good sense, good habits, good temper, patience, order, courtesy, tact, self-reliance, manly deference to superior officers, and manly consideration for inferiors. The absence of these traits is not supplied by wide knowledge of books, or by promptitude in answering questions, or by any other quality likely to be brought to light by a competitive examination. To make success in such a contest, therefore, an indispensable condition of public employment would very likely result in the practical exclusion of the older applicants, even though they might possess qualifications far superior to their younger and more brilliant competitors. . . . But it ought to be seriously considered whether the application of the same educational standard to persons of mature years and to young men fresh from school and college would not be likely to exalt mere intellectual proficiency above other qualities of equal or greater importance. . . . To afford encouragement to faithful public servants, by exciting in their minds the hope of promotion, if they are found to merit it, is much to be desired; but would it be wise to adopt a rule so rigid as to permit no other mode of supplying the intermediate walks of the service? There are many persons who fill a subordinate position with great credit, but lack those qualities which are requisite for higher posts of duty; and besides, the modes of thought and action of one whose service in a governmental bureau has been long continued are often so cramped by routine procedure, as almost to disqualify him from instituting the changes required by the public interest. An infusion of new blood from time to time into the middle ranks of the service would be very beneficial in its results. . . . The submission of a portion of the nominations to a central board of examiners, selected solely for testing the qualifications of the applicants, may perhaps, without resort to the competitive test, put an end to the mischiefs which attend the present system of appointments; and it may be feasible to vest in such a board a wide discretion to ascertain the characteristics and attainments of the candidates in those particulars which I have already referred to as being no less important than mere intellectual attainment."

Although the treatment of civil service occupies considerable space in the message, it can hardly be said that the presentation of the subject is satisfying. Many statements are very general in their significance; some appear imbued with the spirit of advocacy that hesitates between two conflicting opinions, each seeming to be favored in turn, although evident preferences are more or less visible in the argument. This reflection is warranted, (1) by the nature of the objections which are raised against civil service; (2) by the question, "Would it be wise to adopt a rule so rigid as to permit no other mode of supplying the intermediate walks of the service?" and (3) by the final recommendation that Congress could establish a board of examiners to determine qualifications "without resort to the competitive test." Under such conditions, the board could be little more than a scapegoat for the politicians who commit sins in the matter of rewarding party service. The suggestion made in the message that civil service should be adopted by slow degrees is not calculated to inspire confidence in the mind of the public that measures of civil-service reform will be vigorously inaugurated.

The manner in which the message presents objections against limiting appointments by the decisions of educational tests, is the porti n which is most interesting to educators. It is urged that the service demands something more than a "wide knowledge of books"; that it requires "probity, industry, good sense, good habits, good temper, patience, manly deference to superior officers, and manly consideration for inferiors." The message says that "It ought to be seriously considered whether the application of the same educational standard to persons of mature years and to young men fresh from college would not be likely to exalt mere intellectual proficiency above other qualifications of greater importance." No one will question the necessity for all the qualifications narrated in the message; but what is the meaning of a liberal education, except it be the preparation of the mind to adopt habits which are essential to transact business successfully? Education signifies the freedom, adaptability, and power of mind which the uneducated do not enjoy. Special qualifications are developed by experience. Shall it be said of a young man who has acquired a thorough education, that he has not greater capacities for adapting himself to forms of business than he would possess were he uneducated? Surely the chief magistrate of the United States will hardly consent to affirm this. Educational discipline constitutes the very elements of habit; it tends to broadness of view. If the servant can look forward to promotion, he will not be disqualified for the higher duties because he is familiar with the details of routine work; this experience will be an advantage, provided the man is educated. The history of the army and navy attests the truth of this fact.

MISCELLANEOUS NOTES.

EDUCATORS mourn the death of Dr. J. G. Holland, Dr. John W. Mears, and Dr. W. D. Henkle. Dr. Holland spent some years in educational work; he was an educator of the people all his life; his writings form a monument to his memory that all the world will honor. Dr. Mears was professor of metaphysics in Hamilton College. He was the fearless friend of liberty and right; he was the chief power that compelled the Oneida Community to adopt legal marriage into their form of social life; he was active in all phases of educational progress; he was honored and loved by all who knew him. Dr. Henkle was a man of wide attainments; his administration of public schools in Salem, Ohio, was eminently progressive; he was a true man in the profession, serving it at all times with devotion and marked efficiency; his talents were versatile; his companionship was most genial; his sympathies were warm, especially towards youthful teachers.

ALL friends of true educational liberty will rejoice to learn that the courts have sustained the Faculty of Purdue University in adopting a rule which excludes from the institution members of Greek-letter societies. This is a test case in college administration. It is time that colleges in America should be regarded as corporations having rights of implicit contract which students are bound to respect.

THE journey across the Atlantic is so serious a matter to most tourists that any plans which propose to render the voyage more safe against storms and collisions are hailed with pleasure. Capt. Horatio McKay of the Cunard line has submitted in the *Century* for November a plan to accomplish these improvements. He recommends that governmental authority shall establish between Liverpool and New York, eastward and westward tracks which shall be followed by all steamships. These tracks are termed "lane routes," the westward of which should cross the meridian of 50° west at 42° 40′ north, and the eastward the same meridian at 40° 40′ north. These two lanes would be one hundred and twenty nautical miles apart, which would preclude the possibility of collisions. While the time required for crossing would be slightly increased, the safety assured by the lanes would amply compensate for the additional time. Educators are deeply interested in the safety and comfort of ocean travel; for reading and conversation cannot give an adequate conception of a country that has grown old and has become stratified in its social and governmental institutions. Travel in our own country is profitable; but travel in foreign lands enlarges the views of the true province of education as nothing else can do.

WRITING compositions is a common practice in schools. What subjects shall be set to pupils? is a question of importance. Teachers should aim to induce in their pupils habits of mind that are as distinct, rigid, and certain

in regard to writing as are those which relate to mathematics or any other subject. Writing on miscellaneous subjects is harmful, unless the pupils are prepared for this stage of composition. Habits of mind are confirmed by proper exercises with facts, provided the habits are to be serviceable in the great responsibilities of life. This principle establishes the character of the composition which should be required of pupils; viz., they should deal with facts, and facts only, until facility has been acquired to do this writing. Require pupils to treat facts in their compositions with the same rigorous disregard of color as they do mathematics in a recitation. Narration and description are the two fields which should furnish the elementary discipline in writing. After pupils can state a fact correctly and tersely, they may be allowed to introduce coloring gradually into their compositions. Pupils must be taught that correct sketching precedes the use of paints, that the crayon goes before the brush.

The trial of Guiteau at Washington for the murder of President Garfield was characterized by many features of the farce; yet one thing was revealed which must impress all people of the country who trace effects to causes in psychical problems. Here was a man who was cunning, clever in many things, fanatical in others; a profligate adventurer who was responsible for his actions, without any doubt. He wanted a position in the public service, and was disappointed because he was unsuccessful. While in this state of mind, his eye alighted upon paragraphs in some newspapers which heaped personal abuse upon the President; hints were thrown out to the effect that the removal of the President would avert dire calamities, which threatened the whole country should the Republican party be sundered by the dissensions which then were rife. These revolutionary sentences struck Guiteau as an inspiration from the Almighty to remove the President. The world mourns the sequel. It is murder to stab a man with a dagger; is it less a crime against society to publish sentiments and expressions which inspire fanatical minds to commit murder with a pistol?

In these days of educational empiricism and haste to secure to pupils those intellectual attainments which can be acquired only by diligence continued during a series of years, it is profitable to pause to look into the studies of those men who took the honors of the world. By doing this, it will be found that facility comes only after the severest application. The habits of the celebrated Balzac are delineated in the "Argosy": —

"It is Honoré de Balzac we are going to look in upon. Each of his novels, at least after he became great, was thoroughly thought out in all its ramifications before he put pen to paper. He would take a long journey to obtain the minutest point of a description, even of a street of a country town. As Dickens in London, so was he in Paris, ever in the streets, note-book in hand, ever piercing and penetrating into every class of society. When all the materials of his proposed work were amassed, he would retire from the outward world. Every visitor was refused admittance; letters were left unopened; even the daylight was shut out, and candles supplied its place. His ordinary costume was exchanged for a

loose white monkish gown, Turkish trousers, and slippers. He rose at two A. M., and wrote from that time until six; then he took a bath, in which he remained meditating frequently for an hour; at eight he took coffee, rested for another hour, and then resumed his writing until noon, after which there was another hour's interval for *déjeuner;* from one to six he wrote again, dined, received his publisher, and went to bed at eight. This kind of life sometimes endured for two months. When it came to an end, he had accomplished only the first rough draught of the work. Sometimes it was almost entirely rewritten; chapters were transposed, expanded, altered. Then came the proofs, the margins of which were entirely covered with corrections; the revises, first, second, and sometimes third and fourth, were returned in a condition almost as illegible. He was the terror of printers; few could read his copy, and those who could made an express stipulation with their employer to work on it only one hour at a time. "I toil sixteen hours out of the twenty-four," he said, "over the elaboration of my unfortunate style, and I am never satisfied with it when it is done."

THE elections of last November were conspicuous for the reluctance of office-holders to contribute funds for the political campaigns. All thinking men of the nation realize the danger to national life which lurks in the form of political assessments upon government employés. But it was not until the assassination of the lamented Garfield that the enormity of the danger came into full view. The elections last fall witnessed a wholesome reaction in the mind of the public in regard to the fruitful source of corruption which resides in the theory and practice of political assessments and obligations. The practice of assessments has developed whole broods of partisans whose chief objects are "spoils"; it has trained up in our midst a race of semi serfs or slaves to the man who can command the emoluments of office; wholesome, independent manhood has been ostracized; principles are lost sight of in order to gain the favor of party men. Yet some men have dared to be brave in the face of the high tide of the system of spoils, although punishments have been showered upon them. The few fearless men have been re-enforced; "bossism" has fallen in those States where it has been most oppressive and revengeful. What are the duties of educators in relation to national evils like that just mentioned? can teachers instruct boys to abstain from such ways when they become men? or shall teachers teach morals in general and nothing in particular? These are questions of great consequence to the future of our nation; for it must give the thoughtful historian occasion to reflect upon the phases of our governmental theories when he witnesses many of the practices that have sprung up under our form of organization. It is an undoubted fact that the practices and theories which have gained so great a hold upon our national life have done more to pollute and demoralize the public conscience than all other things in our country combined. Why should teachers try to teach morality to boys so long as our elections breed destruction to honor and truthfulness among men, unless the school-room attack the evils that exist in the body politic?

NOTES.

ARCHÆOLOGY.

THE recently organized Archæological Institute of America held a meeting in Boston, Nov. 15, to listen to the report of the Executive Committee upon the work thus far accomplished by the expeditions sent out by the Institute, — one to Assos in Asia Minor, and the other to Mexico. It appears from the report that the expedition to Assos is under the management of a competent man. It will be remembered by classical students that Assos is an interesting Greek city. The remains of walls, theatres, and temples are very considerable. Outside of the walls is a cemetery, with many tombs and sarcophagi, some of which are ten or twelve feet long. Leake says of Assos, "The whole gives perhaps the most perfect idea of a Greek city that anywhere exists." The expedition commenced work at once; laid bare the stylobate of an ancient temple, and what is of special interest to archæologists, discovered the delicate incised lines traced upon the pavement by the ancient architect to mark the position of the walls of the cella. Many capitals in excellent preservation have been found, as well as many fragments of the famous sculptured epistyle of the temple. Seventeen of these fragments were taken by the French in 1838, and now form one of the chief treasures of the Louvre. Drawings of the sculptures are on exhibition in the Boston Museum. A number of important inscriptions were found, one of special importance relating to the lending of some judges by Assos to a neighboring city to decide a lawsuit, at about B. C. 300; this inscription is of special interest to students of Demosthenes, as bearing on some doubtful questions suggested by the "Oration on the Crown."

While it is well known among scholars that archæologists are making great progress, and that their work is shedding light on every department of antiquity, the equally valuable researches of the prehistoric archæologists are often overlooked. And yet this work is of special instructiveness and value, for what is more needed to enable us to understand the early institutions of society than for some one to bridge over the chasm between savage and civilized society, — *i. e.*, to approach early institutions from the point of view, not of what they grew into but of what they grew out of, not of historical records but of prehistoric antiquity? The science of prehistoric archæology, although comparatively a new one, has already taken its place among the circle of sciences; it has lived down the successive stages of scornful denial, of doubt, of unwilling assent, and has finally conquered a substantial recognition for itself. One of the ablest workers in the field of prehistoric archæology is Prof. Henry W. Haynes, whose discoveries in the valley of the Nile were noticed in EDUCATION, No. IV., p. 405. His recent lecture before the Long Island Historical Society on "Fossil Man" was of great interest, and a substantial contribution to the subject which he has

enjoyed such rare and exceptional opportunities to prosecute. Prof. Haynes gave a brief history of the science of prehistoric archæology, — the literature it has developed, until it numbers among its votaries many conscientious and painstaking students, who are devoting themselves exclusively to this new and rich field. The lecturer then briefly sketched some of the objections which the science has met with. In regard to the antiquity of man, many new facts were adduced, all tending to show that the ancients themselves were not so far mistaken in holding to the great antiquity of man, and giving special significance to Horace's words: "When men first crept forth from the newly formed earth, a dumb and filthy herd," etc. In the mediæval ages, however, under Christian influence, and the enforcement of the supposed Biblical chronology, this view of man's antiquity was abandoned.

But when men discovered in caverns, in France and in various other localities, human bones with the remains of extinct species of animals; and particularly when Boucher de Perthes, the pioneer of the science, found in 1841, in the valley of the Somme in France, a flint rudely fashioned into a cutting instrument embedded in a gravel bed containing fossil mammalian remains, and his antiquarian knowledge and experience recognized at once how different these rude and peculiar weapons were from those fashioned from the smooth stones found on the surface of the soil; and again when other and similar discoveries were made in widely separated localities, — the attention of all scientific men was called to this new branch of science, prehistoric archæology, and since then the science has advanced steadily to its present position. By "fossil man" is meant "man as the contemporary of certain species of animals, now either totally or locally extinct, and about whose existence history and even tradition are silent." The period in which these remains are found is called by the French the "quaternary period"; by Sir Charles Lyell the "pleistocene period," which is a more correct term, as the word "quaternary" implies a marked separation from the preceding "tertiary" period, whereas in fact no such marked separation exists. On account of the extensive deposits of rolled and water-worn pebbles, gravel, and sands, this period is often called the "drift" period. From the fact that these remains are found mixed with the bones of animals which now belong to the Arctic region, — from the fact, for instance, that the reindeer lived in as low latitude as the South of France, — a lower temperature than at present prevails would seem to be indicated; but on the other hand, mingled with these remains are found those of the elephant, of the hippopotamus, and of the hyena, the inhabitants of a warmer climate. These phenomena have suggested many perplexing questions as to the climatic condition of that remote period. Besides the usual astronomical causes assigned for the existence of the glacial period, Dawkins thinks that a large influence should be given to different geographical conditions in the distribution of land and water, or to a change in the direction of the Gulf Stream. The deposits in which these remains are found lie in gravel beds on the sides of valleys along the prehistoric water-courses, sometimes two hundred feet above the present beds

of the streams. The remains of man that have been discovered "show that man even at this early period possessed a considerable cranial development, and was endowed with a brain capacity fully equal to the average at present"; and also that there were two different types of man based upon the shape and measurements of the skull, — dolicho-cephalic, or skulls of long shape, and brachycephalic, or round shape. The human remains of the quaternary period are, however, rare, showing that the population was small. There is little evidence to show the existence of man in the tertiary period. When the plateau of Central Asia, the original home of the Indo-European race, is searched, it is expected that valuable discoveries will be made. The first question to arise is, How long has man existed upon the earth? To this, science is as yet unable to furnish a direct answer. It is clear, however, that man was in existence prior to the great floods that closed the glacial epoch. Among the valuable contributions to a solution of this problem of the antiquity of man are the systematic explorations made in South Devonshire, in "Kent's Hole," in Brixham Cave, and particularly in the valley of the Somme, — the classical ground of archæological researches, where the graves of a Gallo-Roman cemetery indicate that it has been undisturbed for 1,500 years. Some of the implements discovered lie two hundred feet above the river beds. At St. Acheul, stone axes were dug out of a gravel pit removed from the river and one hundred feet above its level, the deposits of gravel indicating the lapse of time that has taken place since these old implements were dropped there. In the valley of the Somme, similar implements are found in the bottom of peat beds thirty feet thick. On the top of Melford Hill, near Salisbury, England, is a gravel bed in which these implements have been found, and the very position of the gravel bed indicates its great age. The hill has a valley one hundred feet deep on either side; had the valley existed when the gravel was deposited by the water, it would not have been deposited on the top of the hill. The geologic evidence is that the top of that hill was once the bed of a river flowing through a valley whose sides have disappeared, and new valleys one hundred feet deep have been made. No argument is needed to show how great is the lapse of time since this change occurred. Messrs. Ferry and Arcelon have attempted to calculate the duration of the successive prehistoric ages from the depths of the deposits of the river Saone, which is gradually raising the level of the plain through which it flows. Taking the position of the Roman remains as the basis of his calculation, Ferry finds that the accumulations since that period amount to eighteen or twenty inches. Relics of the age of iron are met with at the depth of about a yard below the Roman; those of the age of bronze occur about four feet below these; and the remains of the age of stone are found about four and one half feet lower still. This he estimates would give for the age of bronze an antiquity of 3,000 years; for the age of polished stone, of from 4,000 to 5,000; while the palæolithic age would be thrust back some 10,000 years. (The old stone age is called "palæolithic," while the later stone age is named "neolithic.") Arce-

lon's computations differ somewhat from these. To the age of bronze he assigns an antiquity of 4,000 years, and to the palæolithic age 8,000 years. These calculations, it may be mentioned, do not vary materially from those of M. Martot, who has carefully studied the deposits of detritus made by the Tinière, which flows into Lake Geneva. These calculations, in their very nature unsatisfactory, — assigning as they do only minimum periods for the successive epochs, — are, however, the only data at present that the prehistoric archæologist has to work with. According to these, then, from 7,000 to 10,000 years at least must have elapsed since the end of the palæolithic period.

How far back the beginning must be placed, they do not undertake to calculate. Then again, the complete extinction of the large mammalia like the mammoth, the woolly rhinoceros, the cave bear, is another indication of the immense lapse of time since man struggled with these huge monsters for existence. But it may be objected that the quaternary gravels are due to some sudden cataclysm, and were deposited in a comparatively brief period of time. That this was impossible, the regularity of the layers, and the fact that the materials of one river system are never found mingled with those of another, would be a sufficient answer. For example, the quaternary gravel beds of the valley of the Somme are entirely composed of débris from the chalk and tertiary strata occupying that area. But within a very few miles of the head waters of the Somme, at right angles with it, and at one point only six miles distant and separated by a ridge only eighty feet in height, lies the valley of the Oise, which contains remains of different and older strata, none of which have ever found their way into the valley of the Somme. From these and similar considerations, prehistoric archæologists are united in the opinion that implements of the St. Acheul type are the earliest relics of man's existence hitherto discovered.

There has, however, until recently been missing one important link in the chain of evidence of those who believe in the great antiquity of man. How is it, says the disbeliever, that no such evidence has been discovered in Egypt, the oldest country of which we have direct historical knowledge? It is true that Lenormant, Arcelon, Lubbock, and others have made journeys up and down the Nile, and published articles on the subject; but still nothing has been found which could satisfy the prehistoric student that evidences of the existence of the palæolithic age had been found. Prof. Haynes, during a residence for some time at Luxor, the site of the ancient Thebes, with its "hundred gates" of which Homer sings, succeeded in making a real contribution to this subject, in finding several implements of the true type of St. Acheul, besides innumerable objects such as knives, scrapers, etc., which are commonly met with in other countries where the existence of the Age of Stone is regarded as established.

PHILOLOGY.

FITZEDWARD HALL has an interesting article in the "American Journal of Philology, No. 7," on the origin of "had rather" and analogous locutions. Most of our grammars have adopted the explanation of *had rather, had as lief, had better*, etc., given in a note in Webster's Dictionary, as originally mere blundering interpretations of the abbreviation of *would*, as in "I 'd rather etc. Hall shows that *had rather* is a good old English idiom, which deserves better treatment than it has hitherto received. I remember that several years ago some critics spoke of this line from George Arnold's poems, "I fancy you *had* rather have blame instead," as "a piece of bad grammar." The expression *had rather* appeared in our language as far back, at least, as the eleventh century. *Should have*, etc., long had a sense which for the most part now seems strange, as "And thys daye rennyth a tale, that the Duke of Bretayne *sholde be* ded" (Sir John Paston, 1472, in the "Paston Letters," Vol. III. p. 60). In the expression *had rather, rather* is not an adverb, but an adjective, synonymous with *preferent*. Mr. Hall adduces examples of the use of *had rather* extending over a period of two hundred and fifty years. *Rathe*, as a literary word, — "The *rathe* primrose" of Milton, — as well as *rather* as an adjective, were falling into desuetude in Milton's time. "Our *rathers*" was used by Palsgrave (1530) for our *forefathers;* so *rathe*, with our culinary *rare*, — a contraction of *rather*, — has borne the sense of underdone. Littleton, in his Latin Dictionary (1684), renders *ovum sorbile* by *rathe eggand*, "a poached or *rath*-roasted egg." *Rere* is a word of much interest which Mr. Hall entirely passes over. Mr. Hall thinks that *had rather*, in "we *had rather go* than stay," was originally simply a substitute for *had* liefer: as "For ye sayd ye *had rather lose* the towne" (1481); "I trow you *had rather have* it in my owne hand" (1499); "I *had rather have spent* a crowne" (Roger Ascham, 1545). It is worth noting that *I would rather* does not occur in our English Bible, though *I will rather* does. Those interested in tracing the history of such expressions as *had rather, had lever, had liefer, had lief, had as lief, had better, had as good, had likely, had need*, etc., will find abundant material in this article by Mr. Hall.

In the same number, Prof. Whitney has an interesting article on "What is Articulation?" Prof. Heyse, of Berlin, defines "articulate utterance" as follows: "Articulate-utterance is such as is naturally produced by human organs; inarticulate, such as is naturally produced by other than human organs." Since we are able to reproduce with our organs many of the sounds of the lower animals, there was evidently no great satisfaction in this definition. Sievers, after first describing the condition of the organs in breathing, says, "So long as the organs of speech continue in such a position, the production of a speech-sound is impossible; in order to this, at least a part of them must be moved out of that position and put as hindrance in the way of the current of breath, — in other words, an *articulation* must take place." The word itself is derived from the Greek ἔναρθρος, which means

simply *jointed*, and is used in a physical sense, rendered into Latin by *articulus*. "Now, the word 'jointed' is precisely, and in the highest sense," says Prof. Whitney, "descriptive of human speech-utterances as distinguished from our other utterances, and from the sounds produced by the organs of the lower animals. . . . These are the syllables: 'articulate' virtually equals 'syllabic.'" Prof. Whitney has shown in his "Oriental and Linguistic Studies," II. 294, that the syllabic effect is given by the alternation of closer or consonantal with opener or vowel elements, — the interposition of the former between the latter; the continuous current of uttered tone is broken into joints to the ear, just as a uniform flexible tube would be to the eye by tying threads more or less closely about it from point to point. Thus, whereas inarticulate utterance is holophrastic, or not separately significant in its parts, and limited in duration, articulate utterance is indefinitely continuable, because each joint in its series has its own character and value, and their multiplication is the multiplication of meaning. This understanding of "articulate" is not only deducible from the etymological sense of the term, but is clearly suggested by the oft-quoted passage from Aristotle ("Hist. Anim.," IV. 9). "Articulation, then," continues Prof. Whitney, "consists not in the mode of production of individual sounds, but in the mode of their combination for the purposes of speech. Hence — and this is a most important part of the significance of the term — it does not depend on any peculiarity of structure in the human organs of speech, but on the manner of their use as developed by education and practice; it is not physical, but historical. We have every reason to believe that language began with monosyllabic utterances: perhaps first pure vowels, then open syllables, then (more questionably) close syllables; one such utterance was the equivalent in meaning of a whole modern sentence, — a simple voice-gesture, as it were, directly intelligible under the circumstances of its production."

SCIENCE.

THE advance in the artistic illustration of our school text-books has been to a certain degree commensurate with the progress in American wood engraving, which is now conceded, even by foreigners, to have reached exceptional excellence; but there is one department in which this advance is not so marked and noticeable, that is, in the maps of the geographies. It may, therefore, repay our geographers to study the methods of expression used in a map constructed by Mr. John E. Weyss, of the United States Engineer Bureau, which has recently won the highest honors at the Geographical Congress of Venice. This model map, a rare combination of science and art, is admirably described in the December number of the "Popular Science Monthly," from which we make the following extracts: The methods of construction combine the rapid reconnoissance, the mountain sketch, the barometrical height upon a precise geodetic basis, and incorporating all reliable information obtainable from other sources, especially the land surveys;

and so faithfully are the features of the country thus portrayed that the map of Lake Tahoe, the subject of this sketch, is sufficient to guide the engineer in his projects, the geologist in his studies, the tourist on his travels, the soldier on his march, and the emigrant in search of a home. So much for its usefulness, its first and principal mission.

As a work of art, it possesses still greater interest to the ordinary observer. Lake Tahoe, situated high up in the heart of the Sierras, is given the place of honor in the centre, the mountain range sloping to great depths in the Carson Valley in the east, and towards the Pacific Coast on the west. Freel's Peak, Pyramid Peak, and Mount Rose, each upwards of ten thousand feet high; the easy grades of the forest-clad slopes about the lake; the rocky shore, the sandy beach; the angular course of the mountain torrent as it dashes between cañon walls, its winding bed through the alluvial soil of the valley; the barren edge of the desert; the great round hills of the Comstock Lode; the agricultural district with its checker-work of farms; the quartz mills, log slide, flume, and railroad, — all are given true to nature.

Here, too, are shown many places of interest to the student of Western history and literature: towards the north limit of the map lies the historic Donner Lake, where in early days a band of emigrants starved in the snow; there is the Devil's Basin, impassable and almost unapproachable, a great area of rock rent with chasms and dotted with myriads of lakes. The Pacific Railroad winds between the high cañon walls of the Truckee River, and then follows its circuitous course through miles of snow-shed and tunnel across the Sierras.

Westward from the lake runs the old Placerville road, of bandit fame, and down the eastern side of the range winds in and out, with many an escalop, the stage road of the famous Hank Monk; while the excavated grounds of the Virginia City mines, and the Geiger Grade, — made famous by Bret Harte, — show in the distance. In fact, if a person were called upon to construct an ideal map, he could hardly derive from his imagination a chart more comprehensive than this. That is the best map for school instruction as well as for professional use which in its entire proportions presents the most exact picture of the country. There is room in every map for many a felicitous touch and artistic bit of shading, not provided for in the present schools of conventional topographical drawing; but the merely mechanical draughtsmen construct maps whose geographical features are stiff, unnatural, and almost mechanical in their geometrical regularity, appealing neither to the eye nor the mind of the students.

Fourcroy long ago observed that in pure oxygen, at a temperature of 15° C. and under atmospheric pressure, phosphorus was not luminous in the dark.

Chappuis finds that the introduction of a bubble of ozone produces the phosphorescence, though but momentarily, the ozone being destroyed. It is not the vaporization of the phosphorus, but the combustion of its vapor,

that determines the phosphorescence ; the entire space occupied by the oxygen at first appearing luminous, the solid phosphorus becoming so only after all the vapor has been burned by the ozone.

A striking experiment was made by inverting two cylinders, one containing air and the other pure oxygen, over two dishes containing potassium iodide and starch solution. A fragment of phosphorus was plunged into each gas in contact with the liquid. In the first, the phosphorus became luminous, and the solution turned to a blue color. In the second, neither phenomenon appeared. Whenever the phosphorescence was visible, ozone was present ; and whenever ozone was absent, there was no luminosity.

Bodies which destroy ozone, or are destroyed by it, also destroy this luminosity. Oil of turpentine does so effectually. Ozone, on the contrary, directly influences its production. Chappuis considers that the luminosity of phosphorus in oxygen is one of the most delicate reactions for the detection of the presence of ozone. — *Bulletin de la Société Chimique de Paris.*

Dr. A. B. Meyer, the distinguished curator of the Dresden Zoölogical Museum, has undertaken, with the assistance of the Department of the Art and Sciences, to issue a serial publication containing fac-similes, photographic or otherwise, of the most important objects in the extensive collections intrusted to his charge. The present number of the "Bilder-Schriften des Ostindischen Archipels und der Südsee" contains six folio photographic plates of the curious and hitherto undeciphered hieroglyphics or pictorial writings from North Celebes, the Pelew Islands, and the Easter Islands, accompanied by eight folio pages of letter press, full of matter of extreme interest to anthropologists.

J. L. Phipson has been able to separate a new element from the pigment zinc-white, which he calls actinium. The oxide is soluble in ammonia and ammoniacal salts, and is slightly soluble in caustic soda. Its color is uninfluenced by exposure to light. The sulphide is a canary-yellow substance, soluble in acetic acid, and turns dark by exposure to the air.

M. de Chardonnet is investigating the absorption of ultra-violet rays by certain media. The author finds that the liquids circulating in plants or impregnating roots and fruits have all an avidity for chemical rays. Fluorescence does not seem to be directly related to intensity of actinic absorption ; thus decoction of radish absorbs less than decoction of potatoes, yet the former is without the property, while the latter is not. White wine is weakly fluorescent ; red wine does not fluoresce. Of the few animal liquids examined, blood is found a powerful absorbent ; but the aqueous humor of a calf's eye, and the albumen of eggs, have no action on chemical rays. Distilled water, alcohol, ether, collodion, and a solution of cane sugar are also inactive. Gelatine intercepts all the chemical rays, and is sensibly fluorescent.

M. Gley, a French physiologist, respecting the effect of attention and intellectual work upon cerebral circulation, confirms the results of M. Mosso,

and adds some new observations. He finds that the rhythm of the heart suffers an acceleration, which is increased in a direct proportion with the intensity of the attention.

Thus the pulse was quicker when he studied geometry than when he studied philosophy, with which he was more at home. The carotid artery is also dilated during cerebral work, and the carotidian pulse becomes dicrotic, but the radial pulse becomes smaller and less ample. The phenomena of congestion observed in the brain persist for a certain time after cerebral activity.

IT is said of Mr. Ruskin's museum at Sheffield that "there is perhaps no room in the world which contains in so small a space so much unique artistic treasure as the small apartment comprising the 'Museum of St. George.' A clever thief could carry off the whole contents in a large carpet-bag, — precious stones that could not be replaced, rare prints, and incomplete MSS."

MR. LARKIN J. MEADE'S artillery group for the Lincoln monument at Springfield, Ill., has been successfully cast in bronze. It represents a disabled cannon, from which the gunner has been struck down by a fatal shot. A boy looks on horror-struck, while the captain mounts the gun and waves his sabre aloft in defiance to the foe.

LADY BURDETT-COUTTS is deeply interested in the philanthrophy of art; in those pictures which take for their theme the hard, pathetic facts of poverty. She has commissioned Mr. Wilfrid Lawson, an artist who paints the poor at work with marked sincerity, with a series of studies in adult life among the toilers of London, which are to follow the group of pictures called the "Children of the Great City."

H. HELMHOLTZ provides, for an electro-dynamic balance, an ordinary balance, with two spirals of copper wire in place of the pans. Beneath these spirals are also two spirals of larger radius. The terminals of these spirals are so arranged that one of the movable spirals is attached and the other repelled. The conditions of sensibility are discussed, and the author concludes that the current which is equilibrated by one gramme can be measured to $\frac{1}{2000}$ of its value. — *Ann. der Physik und Chemie.*

MM. SCARPA and BALDO suggest the following modification of Ruhmkorff's coil: With an induced coil, arranged in two blocks placed on the poles of the magnetic nucleus and communicating with each other, so that their points of junction may be at equal distances from the nucleus, effects are obtained of much greater power than with the ordinary arrangement. — *Les Mondes.*

THE monotype is becoming popular in American studios as a new method of art expression. The process consists of making a drawing with printer's ink on a copper plate; while the ink is wet a dampened paper is pressed upon it, and on being taken up it is found that the picture has been transferred to the paper.